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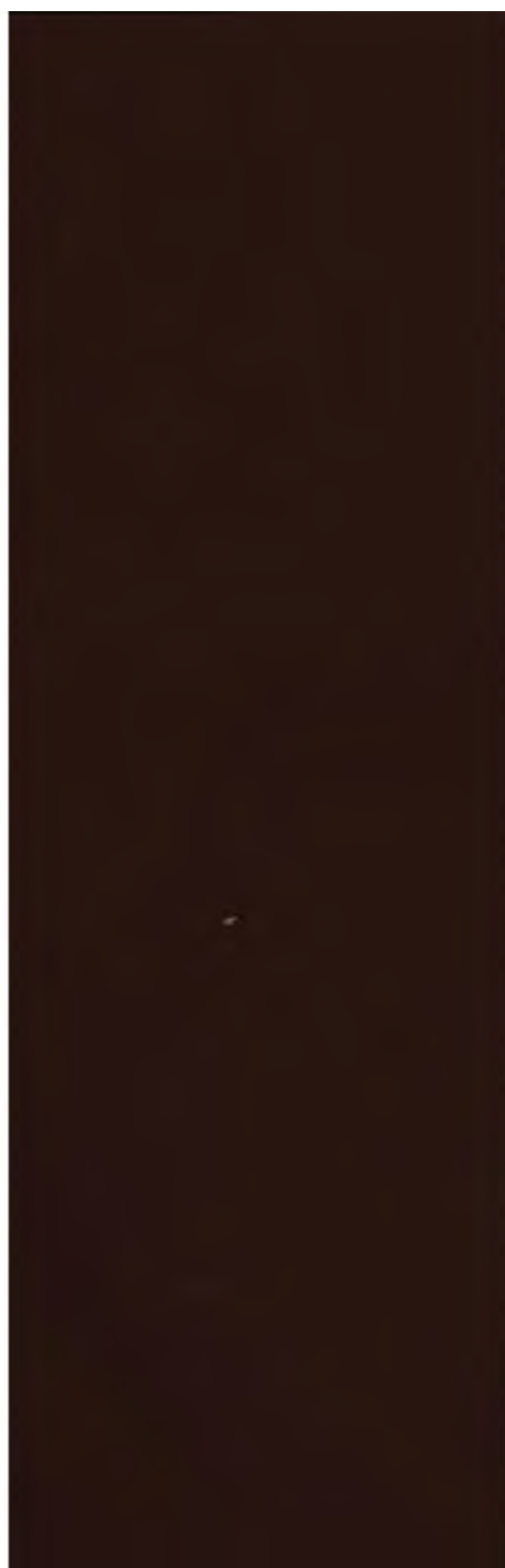
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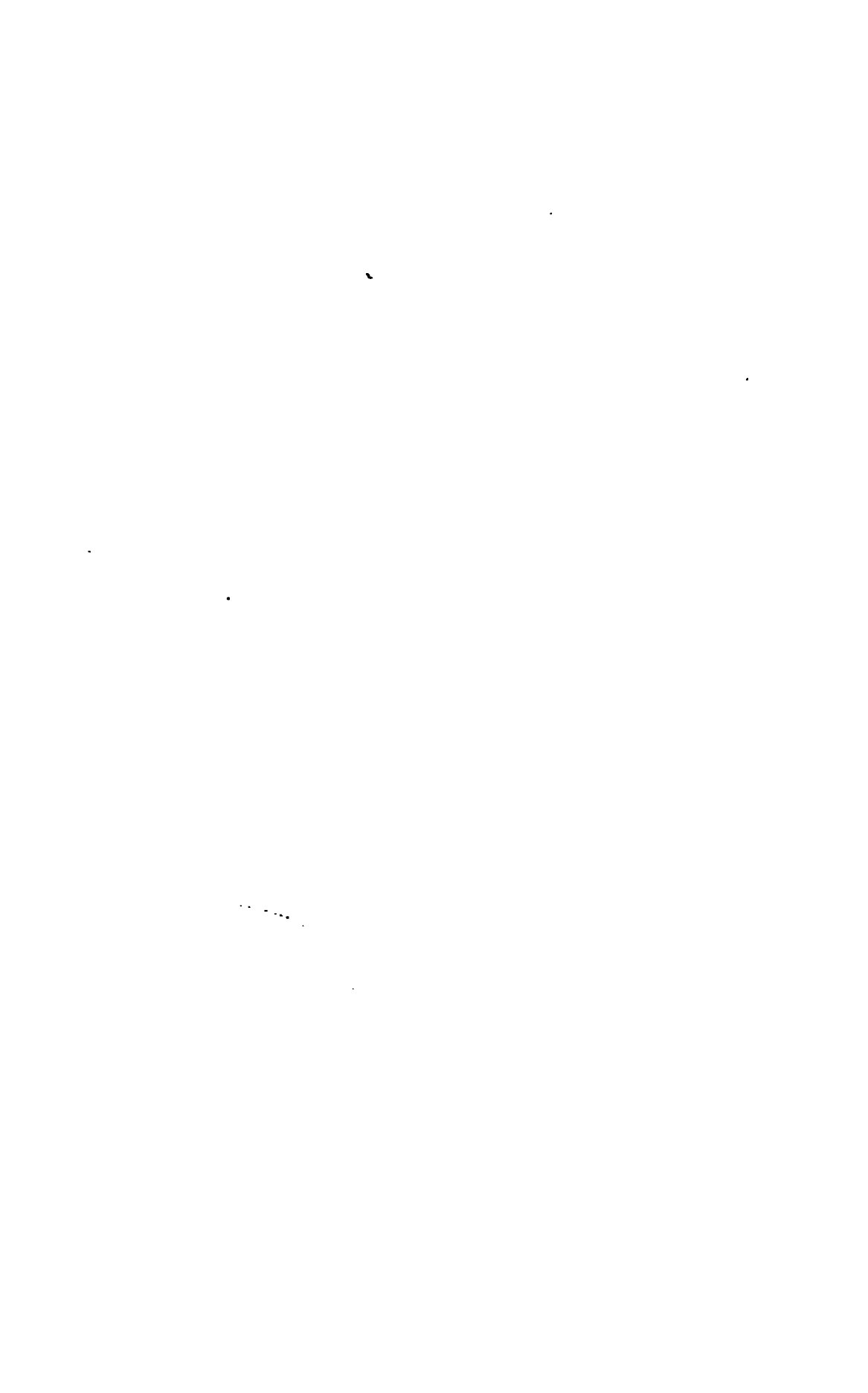
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STRUCTURAL LESIONS OF THE SKIN.



THE

STRUCTURAL LESIONS OF THE SKIN:

THEIR

PATHOLOGY AND TREATMENT.

Illustrated.

BY

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DISEASES; THE NEUROSES OF THE
SKIN, ETC., ETC.



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CAMBRIDGE :
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TO THE
MEDICAL AND SURGICAL STAFF,
AND THE
BOARD OF TRUSTEES AND SUPERINTENDENT,
OF THE
Boston City Hospital,
THIS WORK ON THE
STRUCTURAL LESIONS OF THE SKIN
IS RESPECTFULLY DEDICATED.

P R E F A C E.

THE plan of this work needs no explanation. As a brief exposition of a large and important class of cutaneous diseases, we hope that it will be of practical advantage to the student and physician.

No pains have been spared in consulting the various monographs and works bearing on this subject; at the same time, the author has himself verified, by observation and microscopic investigation, many of the facts here recorded.

Illustrations have been given of rare or important diseases. Those of Elephantiasis Arabum are selected from photographs from the Leper Hospital at Rio Janeiro, presented to the Boston City Hospital by Dr. B. E. Cotting. The large cutaneous horn is from a cast furnished me by Dr. Durkee, and photographed on the wood previously to being engraved. The horn of the eyelid is

engraved from a life-sized photograph of a patient of Dr. Henry L. Shaw. The plate illustrating congenital canities is from a photograph which the author obtained of a patient of Dr. David W. Cheever, in the Surgical Department at the Boston Dispensary.

The lithographs are from the establishment of Mr. Crosby, of Boston; and the wood-engravings were made by Mr. Richardson, of the firm of Russell & Richardson.

Many thanks are due to those gentlemen who have been interested in the progress of this work, and who have contributed material for its pages; and, with an earnest hope that it may meet with a cordial welcome and support from the student and dermatologist, we hasten to fulfil our promise as regards the other classes of skin-diseases.

H. F. D.

Boston, February, 1869.



INTRODUCTION.

	Page
HYPERTROPHY	2
ATROPHY	9
PATHOLOGICAL NEW-FORMATIONS	12

HYPERTROPHIES.

EPIDERMA AND PAPILLARY LAYER	26
Callositas, or Callus	26
Clavus, or Corn	25
Cornu Cutaneum, or Cutaneous Horn	32
Ichthyosis, or Fish-skin Disease	38
Verruca, or Wart	44
Condyloma	47
SUDORIFEROUS GLANDS	50
SEBACEOUS GLANDS	51
Molluscum	51
Wen	54

	Page
BLOOD-VESSELS	73
Nævus Arteriosus	75
Nævus Venosus	77
TEGUMENTARY TISSUES GENERALLY	80
Nævus Hypertrophicus	81
Nævus Verrucosus	81
Nævus Pilosus	83
Nævus Pigmentosus	84
Dermoid Cysts	85
Pendulous Growths	86
NAILS	88
HAIR	91
Hirsuties	91
PIGMENT	98
Lentigo, or Freckles	103
Cutis Maculosa	105
Chloasma	106
Bronzed Skin	107
Addison's Disease	108
Blue Discoloration	124
Black Discoloration	126

ATROPHIES.

PAPILLARY LAYER OF DERMA	127
Linear Atrophy	127
Lineæ Gravidarum	132
NAILS	134

CONTENTS.

xi

	Page
HAIR	134
Alopecia	134
PIGMENT	140
Albinism, Albino	140
Leucopathia	141
Leuco-Melanopathia	144
Canities	144

PATHOLOGICAL NEW-FORMATIONS.

FIBROMAS OF THE SKIN	149
Lupus	149
Kelis, or Keloid	158
Elephantiasis Arabum	160
Elephantiasis Græcorum	175
Sclerema, or Sclerodermia	199
Morphœa, or Vitiligo	202
LIPOMAS OF THE SKIN	204
EPITHELIOMAS OF THE SKIN	206
MELANOMAS OF THE SKIN	208
OSTEOIDS, OR CALCAREOUS DEPOSITS IN AND UPON THE	
SKIN	209
Osteoids	209
Calcareous Covering of the Skin	209
BRIEF HISTORIES OF HUMAN HORNS.	211
BIBLIOGRAPHY	243

ILLUSTRATIONS.

	Page
CONGENITAL CANITIES	3
CUTANEOUS HORN OF FOREHEAD	32
ELEPHANTIASIS ARABUM	160
ELEPHANTIASIS ARABUM	168
CUTANEOUS HORN OF EYELID	240

STRUCTURAL LESIONS OF THE SKIN.

INTRODUCTION.

THE structural lesions of the skin consist in hypertrophy, atrophy, and pathological new-formations. In nearly all diseases of the skin, however, the structure is more or less affected, either temporarily or permanently; so that the extent to which this membrane will be altered, in many instances, cannot easily be predicted. The change from a normal to an abnormal condition, in the nutrition, functions, or structure of the skin, is not an abrupt one. The following is the usual order in which these alterations are produced: first, the nutrition of the part is affected; then the functions; and, finally, the structure.

HYPERTROPHY.

A slight excess in the nutrition of the skin, when long continued, produces hypertrophy, or excessive growth; while deficiency in nutrition is the cause of absorption and atrophy of the tissues and glandular organs of this membrane. If the excess is limited to a single tissue or organ, this is developed disproportionately to the other tissues and organs with which it is more or less immediately connected. If the size of the individual elements, or cells of the tissue, is increased in a continuous manner, enlargement, or hypertrophy, of the part is a natural consequence. If the number of the individual elements is increased, the result is the same. The former is denominated simple, and the latter numerical, hypertrophy.* In simple hypertrophy, the morbid process is confined to certain changes in the existing elements; but in numerical hypertrophy an excessive formation of new elements takes place. These newly formed cells resemble those of the tissues in which they have their origin. Every hypertrophy presents one of these modes of development, and sometimes both.

* Virchow, Cellular Pathology, pp. 65, 66. 8vo. London, 1860.



CONGENITAL CANITIES.

...the hyper-
...of large numbers
...in struc-
...cases. Examples
...of epithelial cells
...chylous, and, to a
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...of the
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...

...and
...growth of
...of the skin.

...of congenital origin.
...formations of
...portions of the skin.
...rapidly after birth;
...by some pathol-
...skin. Other nevi

London Society.

...p. 266 and p. 277.

...1860, p. 522.

...Jena, 1864.

...I. B. pp. 44-47.

...1870, 1871.



In the epithelial tissues of the skin, the hypertrophy consists in the production of large numbers of new cells. These appear to be identical in structure with those of the normal tissues. Examples of this excessive multiplication of epithelial cells are seen in callositas, clavus, ichthyosis, and, to a considerable extent, in cornu cutaneum.*

Verruca and condyloma are forms of cutaneous disease in which the epiderma and the connective tissue of the papillæ are both hypertrophied.†

Hypertrophy of the connective and glandular tissues constitutes the entire growth of molluscum and many encysted tumors of the skin.

The nævi are hypertrophies of congenital origin. Some of them consist of excessive formations of vascular tissue, in limited portions of the skin. They occasionally grow very rapidly after birth; so that they have been considered, by some pathologists, as new-formations in the skin.‡ Other nævi

* Rokitsansky, *Path. Anat.*, vol. iii. p. 100. Sydenham Society.

Heschl, in *Year-Book of Medicine and Surgery*, p. 255 and p. 277. New Sydenham Society, 1860.

British and Foreign Medico-Chirurgical Review, 1860, p. 522.

† Förster, *Lehrbuch der Pathologischen Anatomie*. Jena, 1864.

Follin, *Traité Élémentaire de Pathologie Externe*, t. ii. pp. 44-47. 8vo. Paris, 1865.

‡ Broca, *Traité des Tumeurs*. 8vo. Paris, 1866.

Paget, *Lectures on Surgical Pathology*, p. 508. 8vo. Phila. 1865.

consist in hypertrophy of the papillæ of the derma, and the excessive formation of hair and pigment. The following are the names of the different varieties: *nævus arteriosus*, *venosus*, *verrucosus*, *pilosus*, and *pigmentosus*. When the vascular growth of the skin consists chiefly of enlarged arteries, it has been denominated "*nævus arteriosus*." If, instead of the arteries, the cutaneous veins become excessively hypertrophied, it acquires the appellation of "*nævus venosus*." Those vascular growths of the skin in which both the veins and arteries are enlarged, are known as "*mixed nævi*." "*Nævus verrucosus*" is the name given to a warty condition of these growths. When the surface of one of these nævi is covered with a predominance of hair, it is called "*nævus pilosus*." If the color of the *nævus* is considerably darker than that of the surrounding skin, from the excessive production of pigment by the affected tissues, it is denominated "*nævus pigmentosus*."

The superficial lymphatics are occasionally hypertrophied, and constitute the disease known as "*varix*" of these organs.* There are two varieties of this enlargement. In one, the superficial lym-

* Follin, t. ii. pp. 575-583.

phatic rete is chiefly affected, and the skin is raised into little prominences, which have caused it to be compared to orange-peel. In the other, the vessels themselves are enlarged in a symmetrical manner, or form occasional little globular dilatations, or ampullæ.

Certain portions of the skin have nearly all of their tissues hypertrophied at the same time.

This occurs in *nævus hypertrophicus*, encysted tumors, and pendulous growths of this membrane. *Nævus hypertrophicus* is a congenital thickening of a limited portion of the skin. It is elevated, smooth, hairless, and similar in color, or somewhat whiter than the healthy integument. Encysted tumors have already been mentioned as hypertrophies of the connective and glandular tissues. *Molluscum* and dermoid cysts are examples of these hypertrophies. Pendulous growths of the skin are of congenital origin, and rare occurrence. Examples are recorded in which the skin was quite pendulous, and hung in folds from different parts of the body and extremities. In rare instances, caudal appendages of this nature have been observed.*

Hypertrophy of the nails affects their length,

* Rokitsansky, *Pathological Anatomy*, vol. iii. p. 73. 8vo. London, 1850.

breadth, and thickness. They have acquired the length of from two to five inches, and the thickness of two or three lines. Their breadth is seldom increased more than two or three lines. They are also increased in length and thickness, at the same time that they are diminished in breadth. This form of hypertrophy gives the nails a horn-like appearance.*

Examples of excessive growth of hair are seen in hirsuties and *nævus pilosus*.† The former abnormal condition is sometimes quite general; the whole of the body, with exception of the palms of the hands and the soles of the feet, being affected in a similar manner.‡ The hair, in these cases, attains the length of from two to four inches.§ In *nævus pilosus*, it is usually quite short and stiff. Overgrowths of hair are occasionally seen near parts which have been long inflamed.|| Irritating applications also produce the same effect. There are also local overgrowths of hair, apparently of

* Follin, t. ii. pp. 84-86.

† Dictionnaire de Médecine, t. xxv. pp. 336-349. 8vo. Paris, 1842.

‡ Wilson, Student's Book of Cutaneous Medicine and Diseases of the Skin.

§ London Lancet, 1852 and 1853; and Eve's Collection of Remarkable Cases in Surgery, 8vo, pp. 780-782. Philadelphia, 1857.

|| Paget, Lectures, p. 68.

congenital origin, which differ, in some respects, from the ordinary *nævus pilosus*.*

There may be an increased formation of pigment in the cells of the mucous layer of the epiderma.† This occurs, not only in the cylindrical cells of this layer, but in those also in which coloring matter is seldom seen, in the normal condition. This increase in the quantity of pigment is, in all respects, a species of hypertrophy. Instances of this nature are quite numerous. Besides the ordinary coloring matter of the blood, other pigmentary substances are deposited in the cells of the epiderma. Hence the great variety of appearances presented by the skin in consequence of these morbid products.

Excess of pigment in the skin is termed "hyperchroma." This may exist in spots or patches of considerable dimensions, as in *chloasma*; or constitute a more or less general yet discrete affection, as is the case in *lentigo*. In Addison's disease, the bronzing of the skin is quite universal.‡ The col-

* A remarkable case of this kind has been seen by the author, in the department for the treatment of skin-diseases among out-patients at the Boston City Hospital. It was sent to him by Dr. Mackie, one of the physicians to out-patients in this institution. A description of the case will be given in the article on *hirsuties*.

† Pouchet, *Des Colorations de l'Épiderme*. 4to. Paris, 1864.

‡ Martineau, *De la Maladie d'Addison*. 8vo. Paris, 1864.

oring matter, in this affection, is deposited in the pigment granules of the mucous layer of the skin, either separately or in groups; and also in the connective-tissue corpuscles at the bases of the papillæ. In some instances, the color of a part is due to the deposit of hæmatoidine in the pigmentary layer. This occurs in ecchymoses of the skin, and in icterus.*

Cancer, syphilis, and many cachectic conditions of the system are frequently accompanied by a marked deviation from the normal tint of the skin.

Excessive quantities of pigment are deposited in the skin in consequence of continuous irritation, superficial inflammations, vascular hypertrophies, and pathological new-formations. This unnatural accumulation of pigment is seen in some parasitic diseases of long standing, and is produced by the continual irritation caused by the animal or vegetable parasites, and the pruritus and scratching.

Inveterate prurigo is also productive of similar effects. Superficial inflammations, such as are occasioned by blisters and other irritating applications, and excessive exposure to the heat of the

* Speir, On the Pathology of Jaundice, Transactions of the American Medical Association. 8vo. Philadelphia, 1865.

sun or fire, augment the quantity of pigment in those portions of the integument that are under the immediate influence of these agents. In vascular hypertrophies, pigmentary deposits are liable to take place.

Melanotic cancer of the skin is an instance in which an unusual quantity of pigment is developed in a pathological new-formation. This occurs in fibroma, sarcoma, and carcinoma.

ATROPHY.

Atrophy of the skin is a deficiency in the growth of a part or the whole of the tissues of this membrane. These are either gradually wasted, or they are changed in function and structure by the substitution of less highly organized materials. The ultimate tendency of many of the tissues is to become atrophied with age. The changes impressed upon matter by this process are of two kinds. In one, the quantity of tissue produced is less; in the other, there is an alteration in its quality.

If certain portions of a tissue are gradually replaced by substances less highly vitalized, such as fat and calcareous salts, the process of substitution

has received the name of "degeneration." This is only a mode of atrophy. The principal varieties of this form of atrophy of the skin are the fatty, calcareous, and ossific changes in its tissues.

Atrophy of the horny layer of the epiderma results from superficial inflammation of the skin, especially if it is of long continuance. A deficiency in the supply of healthy epithelium produces excoriations and fissures. Continuous pressure, or distention of the skin, causes atrophy of nearly all of its tissues. The papillary and adipose layers are generally the first to disappear.

Corns are instances in which the papillary layer, and the connective and adipose tissues of the derma, become gradually absorbed, in consequence of the continual pressure of masses of indurated epithelium upon them. Partial atrophies take place in the skin of the abdomen, in consequence of prolonged distention during gestation or ascites. These are productive of the peculiar cicatrices characteristic of those conditions. This variety of atrophy is also produced by the distention of the skin from any other cause, and is occasionally seen about the abdomen, thighs, and arms of very fat persons.

The variety known as "linear atrophy of the skin" is said to occur in the course of a paralyzed nerve.

Suppurative inflammation, when severe or long continued, causes permanent atrophy of limited portions of the skin. Furunculus, ecthyma, and variola are examples of this alteration of its tissues. In advanced age, tuberculosis, and chronic syphilis, there is more or less atrophy of the fatty tissues of the skin.

The cutaneous veins of the lower extremities, and in the lips of old persons, become dilated in consequence of atrophy of certain tissues in their coats.

The sebaceous glands become atrophied with age; and this is one of the causes of the dry and furfuraceous condition of the skin at that period. The sudoriferous glands are also said to be diminished in number and size.

Loss of hair, or alopecia, results from senile atrophy of the piliferous organs. The baldness of age is thus produced.

The hair loses its pigment in canities; or it is absent if this condition is congenital. Instances of congenital canities are of rare occurrence; and

the absence of pigment is limited to the hair of a small portion of the scalp, frequently commencing at the median line.*

The nails are cast off in consequence of certain changes in the matrix, by which their nutrition is diminished. The pigment disappears in places, from some disturbance in the nutrition of the mucous layer of the epiderma. This may be either temporary or permanent.

Albinism is a congenital deficiency of pigment in the skin, hair, and choroid coat of the eye.

PATHOLOGICAL NEW-FORMATIONS.

Several cutaneous diseases, formerly classed with pathological new-formations, have been described, in the preceding pages, as hypertrophies of one or more of the elementary tissues of the skin. This classification seems to be in accordance with the prevailing ideas in cellular pathology. It is impos-

* A well-marked case of this kind was seen by the author at the Boston Dispensary, while Superintendent of that institution. The patient, a young woman, was under the care of Dr. Cheever, for some surgical operation. A short description of the case was given, by Dr. Cheever, before the Boston Society for Medical Improvement, and is inserted in their printed records.

sible, however, in the present state of science, to deny the existence of new elements in many pathological growths. The classification of several diseases must still be somewhat arbitrary, from the simultaneous alteration of different elements, or tissues, in the same structure or organ. In many hypertrophies, for instance, there is a new-formation of connective tissue. For this reason, there exists the greatest diversity of opinion in regard to the place, in different nosological systems, of such growths as molluscum, verruca, condyloma, and the vascular nævi. The following diseases, however, may very properly be considered as pathological new-formations in the skin: lupus; sclerema, or sclerodermia; morphœa; elephantiasis; kelis; lipoma; and epithelioma.

Lupus.

But few writers have paid any attention to the general pathology of lupus. Willan, however, very correctly classed it, with elephantiasis, in the tubercular order of skin-diseases. Wedl, among modern pathologists, has given the most minute and satisfactory description of the histological elements of this disease. By him, it is placed among the

new-formations in the skin. Our description of the general pathology of lupus is based, for the most part, upon the microscopical examinations of this writer.

Lupus consists in a new-formation of connective tissue in the substance of the derma. Portions of this layer become congested and softened, and finally suppurate. The bundles of connective-tissue fibres are more delicate than natural, and their areolæ inclose an abundance of round, oval, and fusiform cells. Some of these are provided with three or four short processes. Each cell contains a single nucleus, and one or more nucleoli. In some of the cells, however, there are two nuclei.

The nucleoli are occasionally the size of blood-corpuscles.*

Sclerema, or Sclerodermia.

Rasmussen, in a very able and critical article on sclerema, or sclerodermia, considers this disease as closely related to elephantiasis.† The pathological

* Wedl, *Pathological Histology*, pp. 383-388.

† "On Sclerodermia and its Relation to Elephantiasis Arabum. By Dr. Vald. Rasmussen, Prosector in Pathological Anatomy in Copenhagen. Translated from the 'Hospitals-Tidende,' for May and June, 1867, by William Daniel Moore, M.D.," &c., in the "Edinburgh Medical Journal," September and October, 1867.

process and its products are the same in both diseases; but the extent and subsequent modifications of these affections are somewhat different. Both diseases consist in "an exceedingly abundant development of lymphoid cells, forming thick sheaths around the vessels." These cells become elongated and fusiform at the borders of the sheaths, in sclerema; and are separated from each other by fibrillar substance, into which they are gradually transformed. This transformation gives rise to "a remarkably large amount of elastic filaments." The change of the lymphoid cells into elastic tissue causes the parts to contract, and at length assume the stony hardness of sclerema. In elephantiasis, this transformation of the lymphoid elements takes place more slowly; so that the part continues to increase in size, or remains stationary, when one process is counterbalanced by the other.

Morphœa.

Morphœa is a modification of lepra or elephantiasis. This affection exists independently of any other symptom of lepra. The texture of the skin is altered, and, in some varieties of the disease, there is insensibility and disorganization of struc-

ture. Professor Wilson has described the following varieties of this affection: *morphœa nigra*, or *vitiligo melas*; *morphœa alba*, or *vitiligo leuce*; *morphœa alba tuberosa*; *morphœa alba atrophica*; and, as a local variety of the latter, *morphœa alopeciata*.

Morphœa nigra occurs in spots, of from one to several inches in diameter. They are, at first, the seat of an erythematous congestion; but, subsequently, of pigmentation of a yellowish or reddish-brown, or almost black, color. The skin, in these places, becomes thinner, less sensitive, and "acquires the lustre and tint of oxidized silver."

Morphœa alba is of two kinds. In the tuberos variety, the skin is infiltrated by a white, opaque substance, of the appearance of wax or lard, and identical in character with that of *lepra tuberculosa*. *Morphœa alba atrophica* sometimes results from the absorption of the white substance deposited in *morphœa alba tuberosa*. The disease begins with a "lilac erythematous blush," and slight desquamation. The corium, or fibrous layer of the skin, contracts. This produces considerable distortion in some situations, such as the face.

Elephantiasis.

The tubera of elephantiasis græcorum consist of newly formed connective tissue, in the fibrous layer of the derma.* There are also numerous rounded granules of pathological new-formation. These contain one or many nuclei. At a later stage, these granules become oval cells; and each contains a nucleus which nearly fills it. These nuclei inclose from seven to eight brown granules. A similar change takes place in the subcutaneous connective tissue, and the tunics of the veins and nerves.

We have precisely the same conditions in elephantiasis arabum that have been described as constituting sclerema, or sclerodermia. In this form of elephantiasis, there is "an exceedingly abundant development of lymphoid cells, forming sheaths around all vessels."†

Kelis.

Kelis is a cicatriform tumor of the skin, of pathological new-formation. It consists of bundles of

* Rokitsansky, Pathological Anatomy. Sydenham Society. 8vo. London, 1850.

Wedl, Pathological Histology. Sydenham Society. 8vo. London, 1855.

† Edinburgh Medical Journal, October, 1867, pp. 325-327.

connective tissue, which inclose numerous areolæ filled with oval nuclei. It is usually of slow growth, painless, and seldom congenital. Its ordinary situation is in the integument which covers the sternum, and its origin may be frequently traced to some anterior lesion of the skin.

Lipoma.

Lipoma is a small, fatty tumor, the most common situation of which is upon the scalp, eyelids, or face. It may occur elsewhere. Sometimes it is congenital. Nævus lipomatodes is an example of this kind.

Epithelioma.

Epithelioma is the ordinary form of cancer of the skin.* It occurs most frequently on the lower lip; and commences as an induration, or in the form of a wart, which at length ulcerates, and is covered with a white, curdy substance, or a crust. As the morbid growth extends, it assumes a fun-

* Thiersch, Der Epithelialkrebs namentlich der Haut. 8vo. Leipzig, 1865.

Elf Tafeln mikroskopischer Abbildungen zu dem Werke der Epithelialkrebs namentlich der Haut. Leipzig, 1865.

Heurtaux, Du Cancroïde en Général. 8vo. Paris, 1860.

goid appearance, and gives rise to a foetid discharge.

The microscopical elements of this pathological new-formation consist of epithelial cells and scales of enormous size, and various shapes. They are fusiform, rounded, or polygonal; and contain large transparent nuclei, with minute nucleoli in them.

HYPERTROPHIES.

EPIDERMA AND PAPILLARY LAYER.

CALLOSITAS, OR CALLUS.

CALLOSITAS, or callus, is a dense thickening of the skin, produced by friction and repeated pressure. It differs from clavus, in not being confined to the epiderma, and in there being hypertrophy, instead of atrophy, of the derma. A callus may, however, degenerate into a corn, from an increase in the amount of pressure, or its long-continued application.

Substances, the contact with which causes rapid abstraction of moisture from the cuticle, are also productive of a callous condition of the integument. The materials and tools employed by masons, smiths, machinists, and in the various mechanical arts, produce such definite effects upon the skin, that it is quite possible, in many instances,

to identify a person as belonging to a certain trade, from the position and appearance of the callosities which have been acquired in his particular calling. The hands of workmen and artisans bear, then, to a greater or less degree, the impress of their trades. This fact is of more than ordinary interest to the physician, as it may be the subject of medico-legal evidence, in cases of doubtful identity, or where these appearances are alleged as marks of external violence.

The situation, number, and form of the callosities produced in the different arts and occupations are given by M. Vernois.* Some of these are peculiar to French artisans, while others are common to persons engaged elsewhere in these occupations. The following table is translated from this writer. A few omissions have been made, but these are unimportant.

Right Hand.

OCCUPATION.	SEAT.
<i>Laundresses</i>	The entire internal surface of the hand.
<i>Burnishers</i>	Fingers, and internal surface of the hand.

* Vernois, *De la Main des Ouvriers et des Artisans, au point de vue de l'hygiène et de la médecine légale.* 8vo. Paris, 1862.

22 STRUCTURAL LESIONS OF THE SKIN.

<i>Chemists</i>	Extremities of the thumb and the index.
<i>Shoemakers</i>	Fingers, and furrows of the hand.
<i>Wood-carvers</i>	Radial border of index.
<i>Gilders of metals</i>	Fingers.
<i>Cabinet-makers</i>	Internal surface of fingers and hand.
<i>Oyster-women</i>	Palmar surface (thenar and hypothenar eminences).
<i>Clerks, copyists</i>	The first three fingers, and the cubital border of the hand.
<i>Printers</i> (compositors)	Index and thumb.
<i>Joiners</i>	Internal surface of the hand and the fingers.
<i>Polishers of glass</i>	Thenar eminence.

Left Hand.

<i>Nut-crackers</i>	Palmar surface.
<i>Players of the violin</i>	Tip of the fingers.
<i>Painters</i> (with the palette) . .	Fold between the thumb and index.
<i>Locksmiths</i>	Thumb and index, ridge upon the thenar and hypothenar eminences.

Both Hands.

<i>Engravers of jewels</i>	Palmar surface of right, index and thumb of left.
<i>Sculptors in wood</i>	Palmar surface.
<i>Drummers</i>	The first three fingers.

Fore-arms.

<i>Washerwomen</i> (in tubs) . . .	Cubital surface of both.
<i>Corders of mattress-hair</i> . .	Radio-cubital surface of left.

Curriers Cubital border, left (most ordinarily).

Nuns Cubital border of both.

Sawyers in saw-pits Dorsal surface of right.

Elbows.

Engravers of jewels Both.

Thighs.

Professed horsemen External superior, and internal surface of both.

Shoemakers Anterior surface of the left.

Harpists Idem.

Players of the bass-viol . . . Internal, and middle surface of both.

Players of the organ Externally, and the right.

Drummers In front, and the right.

Both Knees.

Workers in bitumen; washerwomen who wash by the river-side; slaters; fumists; those who inlay floors; chimney-sweepers.

Both Legs.

Tailors Upon the head of the fibula, in front of the malleolus externus.

Feet.

Porters Plantar surface of both, in form of crescent.

Tailors Head of the fifth metacarpal bone, outside.

Sternum.

Wheelwrights; shoemakers . . With depression of the epigastric region.

24 STRUCTURAL LESIONS OF THE SKIN.

Brush-makers ; curriers ; lock-smiths ; coopers ; turners . Of variable extent, without real depression.

Thorax and Shoulders.

a. Anterior and Superior Surface.

Lacemakers ; litter-bearers ; water-bearers ; those who tow rafts of wood . . . On the lateral portions, with brown appearance of the skin, and upon the shoulders.

b. Superior and Posterior Surface.

Rag-pickers ; porters ; carriers ; &c. The whole superior surface of the back, in variable degrees, and with a very brown tint of the skin.

Lumbo-abdominal Region.

Rag-pickers Three callosities, situated in form of a triangle.
Peddlers In the form of a thick circular band.
Chimney-sweepers Towards the lumbar regions especially.

Sacrum and Ischiatic Tuberosities.

Professional horsemen (young recruits) ; Tailors ; &c. . Of variable extent.

Head.

Porters upon the head . . . On the vertex.

The course and duration of a callus depend upon the extent and continuance of the friction and pres-

sure. When these causes are removed, the skin ceases to become hypertrophied, and may in time return to its normal condition.*

As much attention as possible should be given to the study of the position and form of these lesions, and the causes upon which they depend. These investigations should be pursued in the dispensaries, hospitals, and workhouses in cities, where every variety of occupation is represented. We shall thus not only elevate our profession, by giving exactness to our conclusions; but be able to suggest, in some instances, the means of obviating those mechanical injuries which are productive of deformity and insensibility of the skin.†

CLAVUS, OR CORN.

Clavus, tylosis, and corn are only different names for the same condition of the skin. Corns are ex-

* Dictionnaire de Médecine, t. vi. p. 237. 8vo. Paris, 1834.

† Patissier, *Traité des Maladies des Artisans, et de celles qui résultent des diverses professions, d'après Ramazzini.* 8vo. Paris, 1822.

The operations and implements of the different arts and occupations are described in this work. There are, also, many valuable works on the useful arts, which should be consulted in the study of this subject. No knowledge, however, is so valuable as that obtained from the actual inspection of these lesions. Nor is this impossible for the student, if pursued with a proper scientific spirit, and apart from that idle curiosity which shuts the door against many would-be explorers of the arcana of knowledge.

cessive thickenings of circumscribed portions of the epiderma, which assume, at length, a somewhat horny structure. The surface of a corn is but slightly raised above the surrounding integument, while the tissues immediately beneath it become atrophied by its continuous pressure. The growth of this hypertrophy takes place at its inferior and lateral portions, from the successive and rapid changes of the cellular layers of the epiderma into laminated, or apparently homogeneous, tissue.

The central portion of the corn, or that which was formed earliest, becomes thicker than the rest, in consequence of its greater pressure upon the tender cells of the epiderma; thus causing them to be transformed into a denser tissue than that which surrounds them. The growth of the corn is, therefore, more rapid at this point than at its borders. This causes it to assume the form of a blunted cone, the apex of which penetrates the derma, and produces, by its presence, a series of changes, resulting in atrophy of this structure. When the corn has existed for a long period, the derma becomes thinner than usual, and, in some instances, disappears entirely beneath the point of greatest pressure.

Synovial bursæ exist over the articulations of the toes, in rare cases; and not unfrequently give rise to inflammation of a severe character, in consequence of the continual pressure upon them of the unyielding masses of epidermal cells.*

The vascularity of the parts beneath the portion of thickened epiderma is increased at first; but this is at length diminished, when the papillæ and other structures of the derma become atrophied. The portions of the integument which surround the corn maintain, to a certain degree, their increased vascularity.

The nervous filaments of the skin become enlarged at intervals, or are more voluminous throughout their whole extent. These little neuromata are the cause of the excessive pain which usually accompanies the protracted duration of this condition of the epiderma.

Serous effusions, and even hemorrhages, occur, in minute quantities, from the vascular portions of the skin, and are imbibed by the mucous cells of the epiderma, which are in the process of transition into horny tissue. The blood-cells, in these cases, are generally destroyed; but the coloring matter

* Follin, t. ii. p. 39.

remains, as evidence of their former presence. This is readily seen in microscopic sections of corns, and gives a yellowish, metallic lustre to the different layers of which they are composed.

Pressure is the cause of these hypertrophies, in almost every instance. Corns are consequently found upon those portions of the cutaneous integument which are most frequently subject to pressure; such as the soles of the feet, or the dorsal surface of the toes. New or improperly fitting shoes are especially productive of this condition, and always make corns more painful where they already exist. High heels and narrow toes may give elegance of form to a shoe; but this is often gained at the expense and discomfort of the wearer.

The most prominent symptom of corns is the local pain, or tenderness, which is aggravated towards night, in consequence of excessive walking or standing during the day. This subsides in a short time, after the removal of the cause; but returns in the afternoon of the following day, with as much severity as ever. The skin becomes red, hot, and dry; and the epiderma is thickened, in some instances, so as to cause progressive atrophy of all the tissues between it and the bone.

The course of the disease is more or less rapid, according to conditions which can often be controlled by the patient. If the cause be removed, which consists almost always in improperly fitting shoes or excessive exercise of the feet, the disease will be stayed in its progress; but it still requires a slight operation, and some little attention, to effect a cure.

The duration of corns is variable, and depends both upon the prophylactic and curative means employed in their treatment. Fashion has a great influence in these matters; and many persons make themselves miserable, in consequence of the erroneous idea that small feet are a mark of superiority in development.

The Greeks, whose taste is faultless in this respect, have assigned to the human foot certain relative proportions which are in harmony with the rest of the body. Their customs, also, were favorable to the proper development of this organ. The proportion which was most generally adopted for its length, by their best sculptors, is that of one sixth of the altitude of the whole figure. It is a great fault, then, to attempt to reduce, by artificial means, the natural dimensions of a most useful and

ornamental member of the body. Properly developed, it forms the base of a superstructure, the beauty and harmony of which depend upon the just proportion of its different parts. We should endeavor, therefore, by every art, not only to prevent the accidental deformities to which the foot is liable, but to preserve, also, the symmetry of its natural arches, and that softness and delicacy of its cutaneous covering, which are so essential to its perfect development.

The prophylactic measures, which have been adopted for this purpose, consist in giving to its artificial coverings such forms as are found to be consistent with its ordinary shape and uses. Shoes are now constructed with more regard to the natural configuration of the foot; and experience teaches that their use has done much to prevent these annoying hypertrophies of the epiderma.

Treatment.

When this change in the structure of the skin has already taken place, the cause which produced it must be removed, the corn excised as far as the sound integuments, and a small quantity of cerate or other unctuous matter, or soap even, applied to the surface. A drop or two of glacial acetic acid,

applied to the corn for a few nights in succession, will soften the cuticle, so that it may easily be removed with a knife or other sharp instrument. This operation must be repeated at intervals of a few weeks, if necessary, until the part regains its natural softness. The soap or unctuous substance should be applied daily, in the morning. A proper amount of care, in the selection of its coverings, will exempt the foot, in almost every instance, from the production of corns.*

* *Writers on Callositas and Clavus.*

Rousselot, *Toilette des Pieds, ou Traité de la Guérison des Cors, Verrues, etc.* Paris, 1769.

Forest, *L'Art de Soigner les Pieds.* 1782.

Art of Preserving the Feet; or Instructions for the Prevention and Cure of Corns, Bunions, &c. 12mo. London, 1818.

Dudon, *Manuel du Pédicure.* 1825.

Morin (J.), *Manuel du Bottier et du Cordonnier.* Paris, 1831.

Durlacher (L.), *On Corns, Bunions, the Diseases of Nails, and the General Management of the Feet.* 8vo. 1845.

Eisenberg (J.), *On Diseases of the Human Foot, with Surgical and Practical Observations, with Management of the Hand.* 4to. 1845.

Ruckert, *De Clavo Nonnullo.* Berlin, 1846.

Ashton, *Corns and Bunions.* *Medical Times*, September, 1852.

Boot and Shoemaker's Assistant; preceded by a History of Feet Costume. 4to. London, 1853.

Jolien, *Des Tumeurs Chirurgicales de la Peau.* Paris, 1855.

Gorju, *Observations de Maladies de la Peau de la Plante des Pieds, Cors, Oignons, Durillons, Verrues, Ulcérations, Mal Perforant, etc.* Paris, 1857.

Vernois, *De la Main des Ouvriers et des Artisans, au Point de Vue de l'Hygiène et de la Médecine Légale.* Paris, 1862.

Follin, *Traité Élémentaire de Pathologie Externe.* t. ii. Paris, 1865.

CORNU CUTANEUM, OR CUTANEOUS HORN.

One of the most formidable hypertrophies of the human skin is the cornu cutaneum, or cutaneous horn. This outgrowth resembles, in certain respects, the horny appendages of our domestic animals; inasmuch as it arises, in most instances, from the integument of the head and face. It sometimes acquires a length of several inches, and great solidity of structure.

Examples of human horns are recorded by the older writers, which would appear incredible were they not supported by similar instances at the present day. Many specimens and casts of these singular productions of the skin are preserved in our cabinets and museums, and form an interesting part of the history of this subject.

The human horn is essentially an epidermic growth; having its seat in the lining membrane of a diseased sebaceous follicle.* These growths oc-

* "Heschl recognizes, with Virchow, three kinds of horns: one (the rarest) is formed upon an elongated papilla of the skin; a second grows out of a sebaceous follicle (the commonest form); and a third seems to be produced by a circumscribed ichthyosis."—Heschl, on Cutaneous Horns, in Year-Book of Medicine. New Sydenham Society. 1860.



cupy, according to Broca, an intermediate position between simple epidermic productions and epithelioma, and, in many instances, terminate in epithelial cancer.* They are covered with epithelium, which is either ruptured by the forward pressure of the subjacent tumor or gradually recedes before it; forming a fold at its base, not unlike that at the base of the nails. The horn itself is constituted by the proliferation of epidermal cells and sebaceous matter, which become firmly united into a concrete mass. In this manner, the follicle is slowly distended by successive additions to the base and lateral portions of the horn, until the latter assumes a conical form and considerable dimensions. The apex of this cone is directed towards the surface of the integument, and protrudes, at length, from the sebaceous follicle. Contact with the atmosphere serves only to increase its hardness; and it soon acquires the characteristics and consistency of ordinary horn.

Its conical form is due to its mode of growth; the base and sides constantly receiving new accessions. It is hardest at the apex or oldest portion, and is generally curved downwards or in a spiral

* Broca, *Traité des Tumeurs*, t. i. p. 122.

direction. It is somewhat movable upon its base, which is composed of a mass of concreted sebaceous matter contained in a hypertrophied follicle. This portion of the horn is bulged or protuberant, soft or elastic to the touch, and forms a kind of flexible cushion, upon which the cuticular appendage rests. The surface of these horns is convoluted in a longitudinal direction, or formed into convex elevations or ribs, which become much broader at their base, in consequence of the greater activity and constantly increasing area of this abnormal field of growth. These convolutions are transversely striated, or broken into quadrangular masses of various lengths.* The circular striæ appear to be due to inequalities in the successive deposits, which resemble, in some respects, those observed in the horns of certain ruminants.

The external portions of these horns are more compact than their interior; and the apex, than the base. They resemble the ram's horn in color, except that they are more translucent at the apex, and darker towards the base. Some specimens are of a dirty white color. Their general tint, how-

* Lebert, *Traité d'Anatomie Pathologique*, t. i. p. 143.

Follin, t. ii. p. 41.

ever, is a dull brown; and they even acquire a deeper hue. Their color is probably due to long exposure to the atmosphere, and contact with dust and other foreign substances.

Instances are recorded where these cutaneous horns have been shed, and reproduced. In this respect, they resemble the deciduous horns of certain mammals. They either occur singly, or there may be several of them at the same time upon different parts of the body, more especially of the head, feet, and hands.

They vary both in shape and size: in some instances, becoming almost cylindrical; in others, conical, with a very broad base, the circumference of which may measure several inches. They are, occasionally, bifurcated or cloven, and even trifurcated at their free extremities.

In form, color, consistency, and chemical composition, they resemble the epiderma, and are secreted by the same organs as the latter, although modified, in their productive activity, either from injury or disease. They emit a peculiar, horny odor in burning, and consist of albumen, mucous, phosphate of lime, chloride of sodium, and a trace of the lactate of soda. They are easily acted upon by

sulphuric acid or strong alkalies, and become softened, and at length separated from their follicular attachments.

They occur most frequently in advanced age, and in women, and depend upon a diseased or injured condition of the sebaceous glands, from the lining membrane of which they spring. The subjacent papillary bodies are also hypertrophied to a great extent, to enable them to support this excessive growth, of which they furnish the nutritive materials.

Cutaneous horns are sometimes shed spontaneously; but are soon replaced by similar productions, if the matrix, from which they grow, is not destroyed. When these horns exist simultaneously upon different parts of the body, or when they occur in the descendants of those who have been similarly afflicted, at nearly the same period of life, it would seem as if there were some constitutional or hereditary predisposition for the production of these otherwise adventitious growths.

From the statistics of Professor Wilson, they appear to be nearly twice as numerous on the head and face together, as on the remaining portions of the entire body. Thus, out of ninety cases collected

by this writer, fifty-six were situated upon the head and face, fifteen upon the trunk, fourteen on the inferior extremities, and the remaining five upon the glans penis.*

Their rapidity of growth is quite variable, and their local symptoms may consist in a moderate degree of pain and pruritus. When they are situated on the head, and are of considerable dimensions, there may be more or less pain in this region. In all instances, they can be readily distinguished, both by their history and aspect, from those periosteal growths that have their origin in a syphilitic diathesis. Nor are they to be confounded with exostoses from other causes; since the latter are firmly united with the subjacent bony structures, whereas the horny appendages are always more or less movable upon their bases, and obey even the motions given to them by the movements of the skin.

Treatment.

Excision should be practised when the horn is quite small, and destruction of its matrix with the

* Wilson, in *Medico-Chirurgical Transactions*, 1844, vol. xxvii. pp. 52-69.

solid nitrate of silver. If the horn has attained a large size, especially in the aged, its removal may not always be deemed advisable.*

ICHTHYÖSIS, OR FISH-SKIN DISEASE.

Ichthyosis, or fish-skin disease, is a more or less general hypertrophy of the horny portions of the epiderma. This substance is transformed into thick layers or scales, which become brown or nearly black by exposure, and are broken into quadrangular or rounded fragments by the movements of the derma to which they are attached. The thickness of these scales varies on different parts of the body. They are excessively developed, in this respect, on the elbows and knees. This hypertrophied condition of the epiderma may give rise to appearances similar to those presented by cutane-

* *Writers on Cutaneous Horns.*

The names only of the principal writers on cutaneous horns are given in this place. The titles of their works and articles, the dates and places of publication, will be found in the Bibliography, at the end of this monograph.

Alibert, Behrens, Breschet, Dauxais, Dublanc, Dumonceau, Durkee, Eloffe, Eve, Förster, Follin, Franck, Heschl, Lassus, Logés, Malpighi, Musæus, Naylor, Planque, Plumbe, Rayer, Rokitansky, Westrumb, Wilson.

ous horns. The scales, in such instances, attain the thickness of six or eight lines. When thus hypertrophied, they become conical, and even pyramidal, in form, and blackened at their apices. Their structure is not so dense as the older portions of some cutaneous horns. The scales of ichthyosis, when examined with the microscope, are seen to be composed of distinct layers, easily separated by the use of dissecting needles, and presenting a series of contorted and broken strata.* These strata are nearly equal in thickness, and scarcely differ from one another in appearance and density. They are formed by an immense number of cuticular laminae, united to each other by a somewhat more feeble bond of union than that which

* This description of the microscopic elements of ichthyosis was made during the examination of sections of the scales from a patient then under the observation of the author. The disease, in this case, was congenital; and the patient, a girl about ten years old. The entire surface of the body, extremities, and face was affected with this morbid condition of the cuticle. The elbows and knees, the posterior portion of the ankles down to the insertion of the tendo Achillis, and the hollow at the bend of the fore-arm upon the arm, were the situations in which the scales attained their greatest thickness, or about a line. These scales were of a dirty brown color, or almost black. Elsewhere, they had a silvery, or asbestos-like, lustre. They were firmly adherent to the cutis or derma, the papillary layer of which was much hypertrophied. When forcibly detached, a slight quantity of serum exuded, or this fluid was tinged with blood.

connects the different strata in an ordinary corn. This is due, in a great measure, to the absence of that amount of continuous pressure which causes the cellular elements of corns to coalesce into an almost homogeneous substance.

The convoluted condition of the different strata, of which these scales are composed, is caused by the constant dessication and contraction of their exposed surfaces. This is most obvious in vertical sections made across these scales. The motion of the derma, to which they are attached, is also an active agent in the production of this condition, by causing the scales to be early broken into quadrangular masses. The papillæ likewise, in consequence of their hypertrophy, give rise to these convolutions of the epiderma. These foldings of the different strata prevent their detachment from one another, and are a cause of the great thickness which such accumulations of epiderma sometimes attain.

The scales of ichthyosis have been found, from chemical analysis, to contain a considerable quantity of inorganic matters, such as lime, magnesia, and iron.*

* Naylor, A Practical and Theoretical Treatise on the Diseases of the Skin, p. 57. 8vo. London, 1866.

They are not imbricated, strictly speaking, as is asserted by some writers, but are separated from each other by deep furrows, which extend down into the derma. When, however, they attain the dimensions of spines, occasionally they overlap each other, if subjected to much pressure. This circumstance has given rise to erroneous ideas of their structure, and mode of attachment to the derma.

The variety of cutaneous disease described as "ichthyosis sebacea," or "ichthyosis spuria," is an affection of the sebaceous follicles, and is generally not so extensive in its distribution as true ichthyosis. Occasionally, it occupies a very limited portion of the integument, and is either of congenital origin or appears at an early age. In this disease, there is frequently a production of cutaneous horns of considerable dimensions. Many cases of multiple horns are of this nature. They usually become detached before they attain the dimensions of the large solitary horns, which more properly deserve this distinction. Multiple horns occur in youth and middle life, whereas the large solitary horns are peculiar to the aged. "Ichthyosis sebacea spinosa" is the name given to this spurious form of ichthyosis. There is also an "ichthyosis

sebacea squamosa." These names indicate the appearance, as well as the nature, of this disease.

True ichthyosis is both congenital and hereditary, and must be considered a deformity of the skin. False ichthyosis, or ichthyosis sebacea vel spuria, may be of the same origin. The scaly covering in both diseases is sometimes spontaneously shed during the eruptive fevers. It is uncertain, however, whether this condition is permanent.

We have seen a case of congenital ichthyosis, in which there was also alopecia. This condition is a very rare one, and does not appear to have been noticed by writers on ichthyosis.

Patients with this disease can seldom be made to perspire. We have noticed more than one instance of the kind, in private practice.

Treatment.

Success can hardly be expected in the treatment of such obstinate affections as those we have just described. We would not, however, discourage any reasonable attempt made to ameliorate the condition of these unfortunate beings.

The constitutional treatment of ichthyosis should be of a tonic character. Fowler's solution of ar-

senic, administered with caution, will give the best results. The different preparations of iron are sometimes indicated. Cod-liver oil has also been used internally for this affection.

Emollients, and those remedies which soften the cuticle, sometimes give temporary results which are quite promising. These remedies may be applied in the form of baths; or of unctuous substances, rubbed into the skin.

Poultices are sometimes convenient for removing the crusts and scales in ichthyosis sebacea; especially when it affects the ankle, the dorsum of the foot, or the back of the hand.

Ammonia liniment is a very good application for softening the scales and stimulating the skin. A liniment containing croton oil has been used for the latter purpose. Some of the medicated soaps should be prescribed for ablution, the continuous use of which is attended with benefit. The most efficacious of these are as follows: juniper tar soap, Norway tar soap, *sapo viridis*, petroline soap, and glycerine soap.*

* Foreign medicated soaps can only be obtained at the principal druggists in our large cities. A constant supply of them is kept at the establishment of Theodore Metcalf & Co., in Boston; and, also, by Leopold Babo.

If the disease occupies a large portion of the integument, or even the entire surface of the body, the application of the oil of olives, neat's-foot oil, or cod-liver oil, will diminish somewhat the harsh condition which this scaly covering gives to the skin. These oils may be scented in such a manner as to render them less obnoxious to the patient; or, even, they may be made quite agreeable to some.*

VERRUCA, OR WART.

Verruca, or wart, is a little outgrowth of the skin, somewhat globular in appearance, and seldom exceeding a line or two in breadth or elevation. The surface of these growths is smooth or granulated, and sometimes filiform in structure. They are of a pale brown or dull red color, hard, and almost insensible to the touch, and seldom painful, except when they are rudely handled, or caustics are applied for the purpose of their removal.

* *Writers on Ichthyosis.*

See Bibliography for the works of these writers.

Alibert, Buniva, Bateman, Chiappa, Donati, Follet, Good, Hebra, Joulhia, Janin, Lorry, Martin, Muller, Neill, Panarolus, Rayer, Schenck, Simpson, Tilesius, Van der Wiel, Vater, Willan, Wilson.

Warts consist of clusters of hypertrophied papillæ, the epiderma of which predominates in this excess of development. The central portion of each of these papillæ is penetrated by a single vascular loop, and, in some instances, by a nervous filament. The different papillæ which compose the cluster vary in length. They are either united into a smooth, oval mass, by the epiderma forming a uniform covering to the cluster, or they become more or less filiform from the deflection of this substance between the separate papillæ.

The hardness of warty growths is due to the predominance of the horny tissue of the epiderma, and their color to foreign substances imbibed by this tissue, in consequence of its hygroscopic nature. The redness of some warts, however, depends upon the increased vascularity of their bases. This may become so extensive as to give to these hypertrophies the name of "warty nævi."

When transverse sections are made of such warty growths as these, the hemorrhage is often abundant. This is more liable to occur, the nearer the incisions are to the bases of these little tumors, on account of the greater vascularity of these parts.

The causes of these hypertrophies seem to be

involved in obscurity. Warts occur, however, more frequently in children than in adults, and are quite sudden, at times, in their appearance. They may continue several months, without any perceptible change in size, and then disappear almost as suddenly as they came.

Warts are ordinarily situated on the dorsal surface of the fingers and hands, and are either solitary or in clusters.

Several varieties of warts, as regards form, are mentioned, which may be enumerated as follows: *verruca plana*, *sphærica*, *cylindrica*, *pedunculata*, and *filiformis*.* Filiform warts are often several lines in length. We have seen specimens of them, on the arms, which measured six or seven lines. Such warts are usually solitary.

Clusters of warts appear quite frequently on the backs of the hands, especially when they are exposed to irritating substances. They have been known to occur on the face and fingers in great numbers; in one instance, in a woman, after an apoplectic attack.† "Warty bands" are occasion-

* Kleinhans, *Compendium der Hautkrankheiten*, p. 227. 8vo. Erlangen, 1866.

† Rayer, *A Theoretical and Practical Treatise on the Diseases of the Skin*, p. 353. 4to. Philadelphia, 1845.

ally observed, according to Rayer; and he mentions a very singular instance of this kind, which came under the observation of M. Rennes. The description of the case is as follows: "A band of agglomerated warts, from eight lines to an inch in breadth, extended from the upper and anterior part of the right side of the breast, underneath the clavicle, along the arm and fore-arm of the same side, till it reached the carpus, where it increased considerably in breadth, and finally overspread the whole palm of the hand." Whether the production of these singular warty bands depends upon any morbid condition of the peripheral nervous system, is a question which can only be settled by more numerous observations than we have at present.

Treatment.

Warts are either absorbed or exfoliated; occasionally they are removed by suppuration at their bases. When injured, this mode of termination is not unusual.

These growths should be removed by excision, and the application of caustics and astringents; or by the latter means alone. Filiform warts must be excised; or a ligature will be necessary, together with the application, in either case, of some caustic.

Nitric acid, nitrate of silver, chloride of zinc, caustic potassa, muriate of ammonia, acetic acid, and various other chemical substances have been recommended for the destruction of warts. Many dermatologists, however, prefer nitric acid for this purpose. When the more powerful of these caustics are employed, their application should never be intrusted to inexperienced persons; since much pain and injury will be needlessly inflicted upon the patient by those unacquainted with the potent effects of such destructive agents.*

CONDYLOMA.

Condylomata are warty growths of the mucocutaneous tissues. They arise, therefore, from those regions where the skin and mucous-membrane meet. These situations are the external orifices of the genital organs and the anus; the mouth, nares, and meatus auditorius being exempt from these morbid growths. They are sometimes found in the umbilical fossa, and around the nipple.

* *Writers on Verruca, or Wart.*

Alibert, Bazin, Cazenave, Dendy, Devergie, Duchesne-Duparc, Dudon, Follin, Forest, Fox, Good, Kleinhans, Kramer, Nayler, Neligan, Plumbe, Rayer, Rousselot, Thomson, Wilson.

Condylomata consist of hypertrophied papillæ, which occasionally form dendritic growths.* These are either elevated only a few lines above the surrounding surface, or they form enormous clusters, entirely concealing, in the female, the external genital organs and the anus. Sometimes they spread to the surrounding cutaneous tissues, which become extensively involved in this morbid development. Thus the vegetations of the pudenda and anus occasionally extend upon the nates and thighs. When these condylomatous tumors are much elevated above the integument in consequence of the dendritic or branching character of the hypertrophy, fissures or sulci are found, from which there issues a slight, but very sickening, discharge.

These growths have but slight tendency to ulcerate until they have reached an enormous size; and

* These growths are considered, by Wedl and Virchow, as pathological new-formations; and, by Follin and Förster, as papillary hypertrophies, or papillomata. Their benign character should separate them, if possible, from the generality of pathological new-formations. We have thought proper, therefore, to consider them among the hypertrophies of the papillary layer.

We have seen epitheliomata of the prepuce which might easily be mistaken, on account of their warty character, for condylomata, did not their histories, and subsequent microscopic examinations, place the diagnosis of the disease beyond a doubt.

the changes which are produced in the structure of the dermoid and mucous tissues, from their presence, are much less than we should expect to find, in consequence of such a luxuriant form of development.

Their origin is almost, if not always, of a venereal character; non-venereal warty growths, from leucorrhœal discharges, being of very little account as regards their extent and frequency. Gonorrhœa and syphilis are both causes of these warty hypertrophies. In the former disease, they are produced by the peculiar properties of the urethral or vaginal discharge; while, in the latter, they are symptomatic of the constitutional character of the affection.

Much difference in opinion has existed with regard to the origin of some varieties of condyloma. An eminent syphilographer thus expresses himself as regards this subject: "Vegetations of a non-specific nature are, now and then, complicated with true condylomata, which proceed from a venereal cause, and which belong to the circle of secondary symptoms. When these condylomatous excrescences exist, other syphilitic phenomena will be present also, or the history of the case will show

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that they have existed at some former period; and the physician will seldom have any difficulty in assuming the right position as regards the diagnosis. Some authorities make this distinction,—that simple warts are always pedunculated, while those that are really syphilitic are always sessile, and seated on a broad base, and the granular patch is of a dirty red or whitish hue, rather flat than prominent; secretes a watery, yellowish discharge, and having a most disgusting odor. But nothing short of a truthful history of the case can furnish a perfectly reliable basis on which to establish a correct diagnosis. Mere appearances may deceive the most practised eye. This they always have done, and always will do.”*

Condylomata usually have their seat on the muco-cutaneous tissues of the external genital organs and the anus, in the male and female. Thus, they are situated on the prepuce, the labia minora, and the margin of the anus. They are also seen on the corona glandis, the labia majora, meatus urinarius, in the entrance of the vagina, and in the vagina itself; around the os uteri, the

* Durkee, A Treatise on Gonorrhœa and Syphilis, p. 164. 8vo. Philadelphia, 1864.

umbilicus, the nipple, and on the conjunctiva in gonorrhœal ophthalmia. Sometimes they spread from the genital organs to the lower part of the abdomen, or to the inner surface of the thighs. From the anus, they extend to the fissure between the nates.

In rare instances, they are found within the mouth, and also in the larynx; but, generally speaking, these parts are exempt.

They are seen in infants as well as in adults. In the latter, they occupy the mucous surfaces by preference; while, in the former, they may appear on any part of the integument. The delicacy of the skin in young infants is the cause of its more general tendency to become affected in this manner.

With regard to the contagious character of some condylomata, it would be unwise for the physician to entertain too positive an opinion. Sometimes they are transmitted to surfaces with which they are in constant, or habitual, contact; or they arise at some distance from them, in consequence of irritating discharges.

We know of cases where the husband has had these morbid growths on the prepuce for several months, without communicating them to his wife;

and yet no measures were taken to avoid this accident. We have seen kept mistresses, and prostitutes still pursuing their unhappy vocation, when their genital organs were partly obstructed by condylomata; and yet they affirmed that the persons with whom they had intercourse experienced but little, if any, inconvenience, during connection; from the presence of these growths in the entrance of the vagina, and certainly no harm from contact with them.

Statements, however, from such persons must always be received with caution; since it is far better that we should regard the most of these morbid growths as venereal, and somewhat contagious, than to allow our patients to remain in a condition which causes them to become still more degraded, even though they do not directly contaminate others.

German syphilographers distinguish two forms of condylomata,—the condylomata lata, and the condylomata acuminata. The former variety is of syphilitic origin; the latter is produced by gonorrhœal and other kinds of local irritation of the genital organs.

"Plaque muqueuse," or "mucous tubercle," is

the name given by French writers to the syphilitic variety of vegetation.

This disease, when it presents a broad and only slightly raised appearance, is the most contagious of the secondary or constitutional lesions of syphilis.*

Vidal, Robert, and other French writers have described several varieties of condyloma: such as, the sessile, granular, isolated, grouped, pediculated, globose, conical, cauliflower, raspberry, and cock's-comb vegetations.†

The duration of condylomata is quite indefinite, when they assume a dendritic form of growth. They sometimes continue for months, if they depend upon the presence of a virulent discharge from the vagina or urethra, which is allowed to go on unchecked.

Some remarkable cases of condyloma are now under our observation. In one instance, the prepuce is buried in a mass of exuberant vegetation,

* Parker, *The Modern Treatment of Syphilitic Diseases*, p. 227. 8vo. London, 1860.

† Vidal (de Cassis), *Traité des Maladies Vénériennes*, p. 262, etc. 8vo. Paris, 1855.

Robert, *Nouveau Traité des Maladies Vénériennes*, pp. 275-291. 8vo. Paris, 1861.

somewhat lobulated in form, and of a raspberry color. The organ has been thus affected for several months. In another instance, a young female has the entrance to the vagina nearly occluded by vegetations.

Professor D. Humphreys Storer very kindly invited the author, about ten days since, to visit with him a patient, several months advanced in pregnancy, who had a condylomatous mass, as large as a medium-sized orange, suspended by a slender pedicle attached to one of the external labia. Subsequent to our visit, he applied a ligature around the pedicle; and the whole mass of vegetations was reduced, in three or four days, to half of its original dimensions; and will probably wither entirely, or drop off, in the course of another week.

Treatment.

Syphilitic condylomata require constitutional as well as local treatment. The latter consists in topical applications, the ligature, and excision; and is the ordinary mode of treatment for these affections.

When the vegetations are situated beneath the prepuce, circumcision is necessary for their removal.

They should then be snipped off with the scissors, if they are small, and caustics applied to the cut surface. A part, or the whole of them, can be strangulated, by a ligature passed around each of the lobules, or around the base of the entire mass of vegetations.

Excision is of little benefit, however, in checking these morbid productions, unless astringents or caustics are afterwards used. Astringents should be kept constantly applied to the diseased parts, so long as there is any trace of the vegetations.

A powder, composed of equal parts of savin and burnt alum, is very highly recommended by M. Vidal, and other syphilographers. The parts should be washed twice a day with a lotion of spirit and water, or with soap and water, and afterwards covered with a thick layer of this powder. Calomel and sulphate of copper are also useful applications. The permanganate of potassa is a good caustic when used in powder, or in a saturated solution. Liquor plumbi, somewhat diluted, may be applied on lint. Black wash can be used in the same manner, and is often successful in repressing these morbid growths. Various caustics have been used for destroying venereal warts. Some of them

are exceedingly active, and should be employed with extreme caution. A pointed glass rod, or a camel's-hair pencil, is very convenient for spreading a thin layer of the caustic liquid over the part to be destroyed. Care should be taken that no portion of the caustic be allowed to come in contact with the healthy skin; or, if this happens, it should be instantly removed with some wet lint.

The caustics which have been used for the purpose of destroying venereal warts are as follows: nitric acid; hydrochloric acid; glacial acetic acid; a solution of crystallized chromic acid, containing one hundred grains to the ounce of distilled water; a saturated solution of the bichromate of potassa; potassa caustica; acid nitrate of mercury; chloride of zinc; and nitrate of silver.

Ether should be given in these operations, whenever it seems necessary, and is desired by the patient, since they are frequently attended with considerable pain.*

* *Writers on Condyloma.*

Acton, Alibert, Belhomme et Martin, Durkee, Förster, Follin, Guérin, Langlebert, Paget, Parker, Robert, Vidal (de Cassis), Virchow, Wedl.

SUDORIFEROUS GLANDS.

Hypertrophy of the sudoriferous glands is of rare occurrence, and exceedingly limited in extent. This disease is described by M. Follin, and a case is cited by him from Lotzbeck.

As the glands are situated in the areola tissue of the skin, little is known of their structural changes. Some functional disturbance may cause the epithelium to accumulate in them; and they may thus be distended, so as to give the appearance of being hypertrophied. An analogous condition probably exists in the sebaceous glands, in *acne punctata*. Here, the sebum accumulates in, and distends, the sebaceous glands. Comedones are thus formed. Occasionally the sebaceous glands become hypertrophied from this cause.

When the functional activity of the sudoriferous glands is excessive, acute lichen is produced, by congestion of the capillary vessels around the orifices of these glands. Sometimes, furunculi occur about the neck, in the axillæ, the perinæum, and on the back, in young children, from inflammation of

the sweat-glands, or hidrosadenitis; but seldom is there any general or extensive change in the structure of the sudoriferous glands.

SEBACEOUS GLANDS.

The sebaceous glands, and the ducts common to them and the hair-follicles, are exceedingly prone to hypertrophy, and either one or the other may be the seat of this morbid change of structure. When the sebaceous duct is alone affected, we have the abnormal product known as comedo. If, however, the orifice of the duct is closed, the sebaceous gland and the hair-follicle, which have a common outlet, become impacted with sebum, in the shape of a minute white mass of a globular form and considerable hardness, and scarcely exceeding in size the head of a small pin. This abnormal condition of the glandular contents is denominated "miliūm."

In some instances, the sebaceous glands become distended to a very great size, and protruded, so as to constitute knob-like elevations of the skin, which have been described, by various writers, under the title of "molluscum." When, however, the hyper-

trophied gland, instead of rising above the surface of the integument, continues to increase in size and to displace the tissues around and beneath it, the growth acquires, in many instances, dimensions that very much exceed those of the glandular hypertrophies hitherto mentioned. These morbid enlargements of the sebaceous glands have received the name of "encysted tumors," or "wens." We prefer the latter name. Molluscum is an encysted tumor which has become elevated above the surface of the skin, during the process of development.

In some wens, the original communication with the skin, or duct, appears to be entirely obliterated. The glandular nature of these growths is so well ascertained, that their diagnosis is seldom doubtful. They must be distinguished from the dermoid cysts, which are of congenital origin, and consist of involutions of the integument, giving rise to many products, which are identical with those of the preceding tumors.

The pathology and treatment of each of these different glandular hypertrophies will be described separately, and in the order in which they have already been considered.

MOLLUSCUM.

Molluscum is an encysted tumor of the skin, rising more or less above its general surface. It varies in size, being ordinarily no larger than a small pea. In rare instances, it attains the diameter of a hen's egg, or an orange. When small, it projects from the surface of the integument like a thick button with a depressed centre, in which may be observed a single minute opening or perforation. As the molluscum increases in size, a short pedicle is formed, surmounted by a globular or somewhat cup-shaped protuberance. Molluscum is found, either solitary or in large numbers, on the face, arms, and chest, and, more rarely, on other parts of the body. It is of slow growth, and occurs most frequently in childhood and infancy. Adults, however, are not exempt from molluscum. This growth is without pain, and has no tendency to inflame or suppurate, if uninjured.

Molluscum is a sebaceous gland in a hypertrophied condition. Such hypertrophies assume gigantic proportions, when we consider the natural size of the parts affected by them. The interior of these

enlarged sebaceous glands is occasionally divided into little cells or compartments, opening into the central cavity of the glandular organ. These compartments are produced by the persistence and growth of the original septiments or partitions of the gland, and are hypertrophies rather than pathological new-formations.

As regards consistency, the contents of molluscum are quite variable. In some cases, these growths contain a lactescent substance, which can be readily made to escape from the minute opening in the centre of the depressed surface of the extruded gland. This is done by slight pressure at its sides. In other instances, the sebaceous material is semi-solid, being of the consistence of lard, or ordinary zinc-ointment, which it resembles in color.

Microscopic examination shows this substance to consist of epidermal scales, sebaceous and fatty matters, albumen, tablets of cholesterine, and variable quantities of the salts of lime, potassa, soda, and magnesia. These materials become solid at times, and protrude from the follicular opening, which they gradually distend; and, in this manner, give rise to those anomalous productions known as "cutaneous horns."

As regards form, there are two varieties of molluscum generally described by writers on this subject. "Molluscum pendulum" is so named from the pedunculated or pendulous form of this growth. The largest examples of molluscum are of this variety. Such instances are exceedingly rare.

"Sessile molluscum" is that variety of the disease, or rather that stage of development, in which the glandular protuberance has a broad base, instead of a pedicle. This is by far the most common form of molluscum; and it is the one in which the disease attacks simultaneously, or in quick succession, a large number of the sebaceous glands. These seldom increase in development beyond the size of a small pea or a buck-shot. They often remain stationary at this period of their growth; or undergo a kind of atrophy or absorption, especially if their contents are extruded by gentle pressure. Sometimes they become inflamed, and are surrounded by a halo of redness. In such cases, the tissues are broken down by suppuration, and rapidly dessicate and disappear. Large numbers of them are swept away in this manner.

However numerous these hypertrophies may be, the general health of the patient is not perceptibly

altered. Their great number may be considered as evidence, on the part of the tissues, of an abnormal tendency to this kind of structural change. There seems, also, in some instances, to have been a well-marked hereditary predisposition to this form of cutaneous disease. When it occurs in several members of a family, the idea that it is contagious is not without its advocates. It frequently attacks simultaneously the face of the nursing child and the breast of its mother; and so does eczema. Yet, in the latter case, no one pretends that the disease is contagious in the same manner as syphilis or other diseases which depend upon the introduction of a specific poison into the blood. It is much more reasonable to suppose that local irritation is the exciting cause of disease in both cases, than to try to account for these coincidences on the supposition that the *materies morbi* is transmitted from the child to the mother through the medium of some contagious element. No contagious elements have yet been demonstrated to exist in molluscum; all attempts to inoculate different persons with the contents of these sebaceous tumors having resulted in utter failure of success. Even that variety of molluscum in which large nucleated cells

abound, and which differ entirely from the ordinary epithelium of the sebaceous glands, has been shown to be of a non-contagious character, by the same kind of evidence.

Sometimes a solitary sebaceous gland is hypertrophied, without rising above the surrounding integument. In this case, it resembles a wen; and becomes such, if the duct is obliterated. The skin which is immediately above the enlarged gland is only slightly elevated near the orifice of the duct. This is open, and a soft curdy matter can be expelled from it by gentle pressure upon the surrounding integument. We have removed masses of this substance, which weighed from two to three grains. In a few days, the cyst becomes filled again. This process may go on for some weeks, if the gland does not in the mean time become inflamed. Whenever inflammation occurs, it produces considerable destruction of the integument which covers the gland. The latter becomes everted, and, in some instances, when seen only at this advanced period of its progress, has been mistaken for a malignant new-formation in the skin. A thorough examination of the case will rid the mind of any such prejudice in regard to its nature. This variety of

molluscum forms a link between the ordinary disease, in which the gland and surrounding tissues become elevated above the surface of the general integument, and those cystic growths that are identical in their mode of development, but which, from their size and the general appearance of their contents, receive the denominations of "steatoma" and "atheroma." These varieties of cystic formation will be subsequently described, under the title of "wen."

In molluscum, the connective tissue of the derma is hypertrophied at the same time that the glandular structures are increased in size. Whether the pressure of the contents of the gland is instrumental in causing these changes, is a matter of hypothesis. The activity of the function of secretion is, however, the most probable cause of many of the subsequent changes in the form and dimension of these tumors. The walls of the gland are subjected to a distending force which is generated by the vital properties of the organic cell. The energy of the secreting power of these elements does not appear to be diminished by the pressure of the contents of the gland upon them. Their activity is increased to such a degree, in some instances,

that the subsequent condition of the gland gives evidence of inflammation of a sub-acute character in its lining membrane. The calcareous deposits found in the walls of some of these cysts go far to substantiate this view.

The connective tissue of the derma, which surrounds the gland in the process of hypertrophy, is also affected in a similar manner, and forms a fleshy wall, which incloses the orifice of its excretory duct. This umbilicated appearance of molluscum can be explained in no other way than by supposing the most prominent portions of the tumor to be rapidly enlarging, under the same morbid influence which gives rise to the unnatural functional activity of the gland itself. This influence is not confined to one class of tissues, in the disease we are considering; but extends to nearly all of the elements of the derma around the affected gland. Neither is it limited to one of these glandular organs; but predominates over the development of many, at the same time.

Molluscum has been confounded with multiple tumors of the derma, warty growths, and dermoid cysts. A careful attention given to the descriptions of these different hypertrophies will prevent any such mistake in diagnosis.

We have spoken at considerable length of the pathology of this disease, on account of the paucity of information on this subject, in most works on dermatology.

Many of the French observers do not appear to have ever seen molluscum. Bateman is the first dermatologist in modern times who has described and figured this disease correctly. An extensive observation of skin-diseases will show that its rarity cannot, at least in the temperate zone of North America, be adduced as the cause of so much ignorance of its pathology. Almost every physician here, in extensive general practice, has probably met with a few cases of molluscum. But this affection, when it is confined to a small number of glands, is of so little trouble to the individual, that it is generally looked upon as a deformity rather than a disease.

Treatment.

Excision is the only practicable mode of eradicating molluscum. This should be followed by the application of some caustic.*

* *Writers on Molluscum.*

Bateman, Cazenave, Fox, Green, Hebra, Hillier, Jacobovics, Kleinhans, Rayer, Simon, Thomson.

WEN.

Wens are cystic tumors of the skin, of larger growth than the glandular hypertrophies already described. They also differ from them in aspect. They never rise above the surface of the general integument, in the abrupt manner of molluscum; but extend downwards, and in a lateral direction, at the expense of the adipose layer of the derma. When the subjacent parts do not yield to pressure, as is the case with wens of the scalp, the integument is raised above its ordinary level, and the tumor assumes a globular form.

Wens are simple hypertrophies of the sebaceous glands, with but little alteration of the contiguous portions of the skin. The apertures of the sebaceous ducts sometimes remain partly open, until these tumors have acquired an enormous size; and may be detected by a careful examination of the most prominent part of wens.

Various names have been given to this form of hypertrophy of the sebaceous glands; such as, "atheroma," and "steatoma," on account of the appearance of their contents.

Wens are usually situated beneath the scalp; but are occasionally found on other parts of the body. They are solitary, and of slow growth. Sometimes they exist for years, without any perceptible change in size. They are easily mistaken for dermoid cysts; but the latter are found in all parts of the body, and are of congenital origin. The contents of dermoid cysts are exceedingly heterogeneous; whereas those of different wens vary but little in character.

There appear to be two varieties of development in these hypertrophies of the sebaceous glands. In one, the cavity of the gland is increased in size, while the wall of its fibro-vascular sack becomes many times thicker than in its natural state. In the other, the wall of the sack is quite thin in proportion to the size of the cavity of the wen. The former approach in character the structure of the multiple tumors of the skin, which will be described hereafter. They are, however, quite distinct from that form of hypertrophy.

The walls of some wens are so thin that the color of their contents is visible. They frequently have a tint of yellow; and their situation, size, form, mobility, and the sensation which they give to the

touch, will prevent them, in many cases, from being mistaken for fatty tumors. We have seen these errors committed, however, when they might have been avoided. When a wen is taken for a fatty tumor, the surgeon frequently cuts through the sack, and the contents escape, while the cyst still remains firmly adherent to the surrounding tissues. Sometimes it is difficult to remove the cyst after its contents have thus escaped.

Wens contain epithelial cells, fatty matters, and calcareous salts. Crystals of cholesterine are also found in wens of considerable size and age. Some of the epithelial cells are in the process of fatty degeneration, and present a granular appearance. Wens occur at all ages, are painless, and appear to have no connection with the condition of the individual, as regards health. Sometimes they become inflamed, when small; and fistulous openings take place in their walls. They give rise, under these circumstances, to a form of ulceration and eversion of the sack, which has already been mentioned in regard to molluscum. At other times, a fungied growth arises from the interior of these cysts, when they are thus exposed. Their clinical history will serve to distinguish them, when thus

altered in appearance, from cancrioid and other malignant growths of the skin. If there is still any doubt about the matter, the microscope will help to decide, by showing that the morbid products of the exposed surface of wens consist entirely of ordinary epithelium and pus corpuscles.

Treatment.

Wens are sometimes cauterized, when they are of small size. This mode of treatment is liable to be attended with considerable pain and inflammation. Loss of integument is also a result of deep cauterization. None of these disadvantages attend the excision of wens. A simple incision down to the sack, without opening it, will cause very little hemorrhage; and the tumor can be enucleated readily, and without trouble. In operating upon small wens and other cutaneous tumors, the surgeon will find great benefit in previously benumbing the integument by the use of rhigolene.*

* *Writers on Wen.*

Follin, Good, Gross, Rayer, Rokitsansky, Thomson, Virchow, Wilson.

Wens are usually described among the surgical diseases of the skin. The student will therefore consult the principal writers on surgery, for further information on this subject.

BLOOD-VESSELS.

Various names have been given to the hypertrophies of the blood-vessels of the skin; some, on account of their supposed origin; others, to designate the arterial or venous character of the enlarged vessels. These hypertrophies are commonly called "nævi," or "mother's marks," from the frequency of their congenital origin, or their appearance soon after birth. Most of the names given to them by older writers have fallen into disuse, in consequence of a more intimate knowledge of the pathology of these lesions; and some of the new ones will share the same fate, for other reasons. Thus, such terms as "aneurism by anastomosis," "erectile and varicose tumors," "angiectasia capillaris," and "phlebectasia," however expressive and euphonious they may have seemed to those who first employed them, must give place to a more simple nomenclature.

The generic term "nævus" is applied very properly to a large number of congenital affections of the skin, and is the one employed by most writers. Such epithets as "arteriosus," "venosus," "verru-

cosus," "pilosus," and "pigmentosus," serve to distinguish the particular varieties of these hypertrophies.

Vascular nævi vary in size, from a minute red dot in the skin to a superficies of several inches. They are round, oval, or irregular in their outlines, and involve either the superficial or deep blood-vessels of the skin. Sometimes both are affected together with their capillaries. These hypertrophies derive their peculiarities as regards color, and other objective phenomena, from the character and extent of the vessels involved. Seldom, however, does one system of blood-vessels become extensively diseased, without the others being more or less implicated. It is desirable, therefore, that these diseases shall receive such names as will recall both their external features and pathological conditions. Congenital hypertrophies of this nature must not be confounded with varix.

The division of vascular nævi into species is based, however, not so much on their external characters as upon the pathological conditions which produce them. Hypertrophy of the cutaneous arteries is denominated "nævus arteriosus;" and of the veins, "nævus venosus." This condi-

tion of the capillaries has no need of a name. When arteries and veins are both simultaneously enlarged, the disease is known as "mixed nævus."

NÆVUS ARTERIOSUS.

When the cutaneous arteries are hypertrophied, they appear as patches of a vivid red, vermilion, claret, or port-wine color.

These are quite variable in size, form, situation, and elevation above the surrounding skin.

The temporary changes to which they are subject, both in prominence and color, depend on the amount and quality of the blood circulating in them.

When these vascular nævi are supplied with arterial blood, any thing which accelerates its circulation causes them to become more vivid in color, until they are of a scarlet or vermilion hue. They also become more prominent.

Nævus arteriosus is generally much more limited in extent than the other varieties of vascular nævi. In outline, it is irregular, circular, oval, stellate, or it conforms very nearly to the distribution of a cutaneous nerve.

Some of the more minute examples of this disease arise from the hypertrophied condition of several arterial loops or minute branchlets. From these points, a number of veins radiate upon the surface of the skin, and communicate with the deeper rete of blood-vessels. Sometimes they form anastomoses at short distances from their central arteries, and thus give rise to considerable differences in color.

Arterial nævi are usually situated on the face, neck, and arms, and those portions of the integument which are plentifully supplied with minute arteries. In many cases, they appear to be due to a permanent vaso-motor paralysis, so marked is the distribution of these nævi upon the regions supplied by certain peripheral nerves.

There is a popular belief that many of these morbid appearances, which are denominated "mother's marks," originate in consequence of impressions made upon the mind of the mother during gestation. So strong does this belief seem to be, that we cannot regard it as destitute of all reasonable foundation.

The cause of these congenital anomalies may be, in some way, connected with that mysterious influ-

ence which the mental condition of the mother has at times over the nutrition of the fœtus. Whether this influence acts through the immediate agency of the sympathetic nervous system, thus producing changes, such as excess or deficiency in the nutrition of certain tissues; or other anomalies, dependent on the vaso-motor or nutritive nerves, — we are not yet prepared to say.

NÆVUS VENOSUS.

The cutaneous arteries are seldom hypertrophied without the veins being similarly diseased. An overgrowth of the veins constitutes nævus venosus. These organs become dilated into sac-like pouches, of a purple or livid color; and, with their corresponding arteries, form erectile tumors. Their temporary enlargement, under a variety of physiological stimuli, has given them this appropriate title. In whatever relative proportion these vessels enter into the formation of the local hypertrophies already mentioned, any excitement in their circulation contributes directly to the arterialization of their contents.

When the arterial and venous characters of these

hypertrophies are nearly equal in extent, they acquire the name of mixed nævi; but, as there is nothing new in their pathological nature, they need only be mentioned as complications of the foregoing diseases. In fine, all vascular nævi consist of congeries of minute blood-vessels, whether veins or arteries, or dilated venous pouches, united by anastomoses, by means of which they communicate freely with each other; and thus present a variety of phenomena as regards their circulation, temperature, size, and color, that distinguishes them from all other diseases of the skin.

Treatment.

The various modes of treatment employed for the destruction of vascular nævi may be briefly stated as follows: injections, punctures, vaccination, setons, cauterization, excision, and ligation.

The object of injection is to produce coagulation of the blood in the nævus, obliteration of the blood-vessels, and inflammation and destruction of the diseased tissues. For this purpose, the following substances have been separately employed: a solution of the perchloride of iron, tannic acid, alum, liquor ammoniæ, and the tincture of iodine.

The solution of the perchloride of iron is the one most frequently used. A few drops of this liquid will coagulate the blood in the nævus, and induce the subsequent changes which result in its destruction. This mode of practice, however, is not without its dangers. Two or three cases are reported of almost instant death from the injection of astringents into nævi of the face. Such instances should serve as a warning against the indiscriminate use of this mode of treatment.

Acupuncture, punctures with a hot needle, and punctures made with the lancet, or needles coated with nitrate of silver, or that have been dipped in croton oil, are the means which have been employed successfully in many cases of cutaneous nævi.

Vaccination is a similar expedient, and often successful in small nævi. Setons of waxed silk, or silk immersed in the solution of perchloride of iron, have also been employed. Several may be introduced into the same nævus, in different directions; and the operation can be repeated, if necessary, after a sufficient interval of time.

Cauterization with nitric acid, potassa fusa, and the chloride of zinc, is the best means of destroying small nævi.

Excision and ligation are the means best adapted for the radical cure of the pendulous varieties of these vascular growths. Ligation is sometimes successful, in large sub-cutaneous nævi.*

TEGUMENTARY TISSUES GENERALLY.

Among the hypertrophies which affect simultaneously all of the tegumentary tissues, or a large number of them, the following must be considered as constituting the chief varieties: They are nævus hypertrophicus, verrucosus, pilosus, and pigmentosus; the dermoid cysts, and pendulous growths of skin. Most of these hypertrophies are of congenital origin, and are to be regarded as deformities rather than skin-diseases.

An acquaintance with the general appearance and the structure of these unnatural growths is essential, however, to a complete knowledge of the subject under consideration. They will be described in the order in which they have just been enumerated.

* *Writers on Vascular Nævi.*

Bryant, Carter, Christophers, Clark, Douglass, Erichsen, Forster, Gay, Jordan Murray, Paget, Smith, Teale, Wordsworth, Zeissl.

NÆVUS HYPERTROPHICUS.

This congenital excess of growth affects all of the tissues of a circumscribed portion of the skin. These are developed to such an extent as to cause the part to become thicker than the surrounding portions of integument, and more prominent. The surface is smooth, without hair, and of the color of the rest of the skin. These hypertrophies are of small size, and of a circular or oval outline. Their usual situations are the face and back. They seldom cause any inconvenience, and are less liable to enlarge than many other congenital deformities.

Treatment.

When nævus hypertrophicus is situated on those regions usually covered by the clothing, there is no occasion to meddle with it. Caustics or excision will remove this deformity whenever it is desirable. Other forms of treatment are inadequate for this purpose.

NÆVUS VERRUCOSUS.

Nævus verrucosus is a congenital variety of warty hypertrophy. The papillæ of a portion of

the skin become unduly developed; in some instances, projecting beyond its surface to the extent of three or four lines, and being nearly a line in diameter. These papillæ are cloven at their extremities, and thick-set upon the subjacent cutis. Some of them are much more vascular than others, and are of a reddish tint. The papillæ of these warty nævi are small at birth, and may remain so for several years, and then suddenly become active in their growth. They are generally in close clusters, or assume the form of bands. In some instances, their situation seems to be regulated by the distribution of the cutaneous nerves. The same law of distribution upon the general surface of the skin prevails occasionally in regard to other congenital deformities.

When nævus verrucosus attains considerable size as regards the growth of its papillæ, there is more or less moisture of its surface, which gives rise to a very disagreeable odor.

Treatment.

The situations of these nævi occasionally necessitate their removal, on account of the deformity which they give to the skin. This is safely accom-

plished, in the adult, by the application of strong nitric acid to each papilla, as in the case of ordinary warts.

When the nævus is large, only a moderate extent of surface need be attacked at once. Slight inflammation ensues; and the papillæ fall off, in a few weeks. The subjacent skin is but little altered in its structure, and the disease is radically cured by this mode of treatment.

NÆVUS PILOSUS.

Nævus pilosus is a congenital excess of hair on a limited portion of the integument. The skin, which is the seat of this morbid growth, is usually hypertrophied. There are cases, however, in which there is no perceptible change in its structure. It is not uncommon to find an excess of pigment in these hairy nævi. The hair by which they are covered is short and stiff like bristles. It varies in color from a light brown to a deep black. In a few cases, there has been a tuft of hair growing from the shoulder or back, as long and black as that upon the scalp. These congenital hypertrophies, or nævi, are found upon all parts of the surface of

the body. They are generally solitary, and of small extent, scarcely exceeding an inch or two in diameter, and are of a circular or oval form. There may be several, however, scattered over the body. In some instances, they occupy an extensive area. Although of congenital origin, they continue to grow; and the hairs become much coarser in adult life than they were in infancy. If extracted or shed, they soon re-appear.

Treatment.

When pilosus nævi are small, and situated on those parts of the body which are usually uncovered, they may be removed by excision or caustics. This operation should be performed in childhood.

NÆVUS PIGMENTOSUS.

Nævus pigmentosus is a congenital excess of pigment, deposited in some portion of the skin. These pigmentary spots are of small size and circular outline, and are slightly elevated above the adjoining sound integument. They are ordinarily seen upon the face or back. Sometimes they are of large dimensions.

Treatment.

When these nævi are extensive, nothing can be done to remove them; when small, they are easily excised, or destroyed with potassa fusa.

DERMOID CYSTS.

Dermoid cysts are involutions of limited portions of the skin, in the form of pouches. Their interior surface, therefore, gives rise to many or all of the products which have their origin in the skin itself. They contain sudoriferous and sebaceous glands, hair-follicles and hairs, sebaceous and fatty matters, epithelium, calcareous salts, and, in some rare instances, teeth and osseous substances.

When teeth and bone are found in dermoid cysts, these growths are allied to a process of budding, or germination, which occurs in various parts of the human organism during its foetal existence. In this place, only those cysts are considered which arise from the external integument.

Dermoid cysts are most commonly situated upon the scalp; and, next in frequency, they occupy the region about the orbit. Seldom are they found elsewhere on the surface of the body.

The nature of these growths renders an enumeration of their contents entirely unnecessary, since they are the ordinary products of the cutaneous glands, mixed with epithelium.

Dermoid cysts are of congenital origin, but may remain undeveloped for a number of years. When they commence to enlarge, their growth is often exceedingly rapid, and they acquire considerable dimensions. They are interesting to the dermatologist, as deviations from the normal condition and growth of the tegumentary membrane.

Treatment.

Excision is the proper mode of treatment for dermoid cysts.

PENDULOUS GROWTHS.

Pendulous growths of skin have their origin either in a partial or general hypertrophy of the tegumentary envelope, and are distinct from molluscum and those excessive productions of cutaneous tissue which accompany the formation of large tumors beneath this membrane. Examples are recorded in which the skin hung in folds from

the extremities and various parts of the body, and, in rare instances, formed caudal appendages.

A case of pendulous growth of skin was brought to our notice, a few years since, in a child that had what appeared to be a rudimentary tail.

General and partial hypertrophies of the cutaneous covering are congenital or acquired. The congenital variety is more common; the size of the growth being subsequently increased with the age of the individual, and attaining large dimensions only after the lapse of several years.

A few remarkable cases of pendulous growths of skin have been described by writers on surgery. Such productions are generally harmless. When local, they are sometimes inconvenient on account of their situation or the great size which they attain. A surgical operation is the only mode, in such cases, by which these cutaneous outgrowths can be removed.*

* *Writers on Pendulous Growths of Skin.*

Mott, Paget, Pemberton, Rokitansky, Townsend, Turner.

NAILS.

Hypertrophy of the nails consists of their overgrowth in length, breadth, or thickness. There may be an excess in one or more of these dimensions. The usual form in which this occurs is that of length and thickness. When these two varieties of hypertrophy are combined, the seat of the disease is in the matrix and bed of the nail. An increased activity in the production of cellular elements, in these situations, causes the nail to press forward and upward at the same time; thus giving rise to the great length and thickness which these organs sometimes attain.

When the bed of the nail is alone affected, the nail becomes thickened at its free extremity by the superabundant formation of cells in this situation; and its upward tendency is increased, while its forward movement remains normal. The inclination of its plane is thus changed from a horizontal to an oblique position, the resultant of these two forces.

When the cellular growth advances at the lateral portions of the matrix, or nail-wall, more rapidly

than elsewhere, there is an increase in the breadth of the nail. Hypertrophy in length, breadth, or thickness embraces every variety of excessive growth of which this organ is capable. In cases of ulceration of the posterior and lateral folds, the nail becomes much narrower and thicker than usual, and is increased in length. This form of hypertrophy is produced by a less intense degree of inflammatory action in the bed of the nail than at its borders. In the latter regions, nutrition is interfered with; while, in the former, it is increased.

There are also various forms of displacement, and anomalies in the number of these organs.

In regard to the causes which are productive of this kind of hypertrophy, it is unnatural to suppose that they are entirely mechanical. In many instances, these abnormal growths are evidently the results of improper innervation. Age has, with some reason, been adduced as a predisposing cause; and several of the recorded cases seem to confirm this view. Those habits of personal neglect and indifference which so often accompany the decline of life, will also account for the extensive growths of this nature which are preserved so tenaciously by some old people. Most minds must be con-

vinced, however, that these abnormal cutaneous productions, like others of similar character, belong to the period of physical degeneration and decay. The disposition for the disease thus already exists, since mechanical irritation is insufficient for its production. Lesions of the nerves are known to be the causes, in many instances, of these deformities. Thus, in *lepra anæsthetica*, there is a decided change in the nutrition of the nails.

Treatment.

It will sometimes be necessary to remove these diseased appendages of the skin. For this purpose, the part may be benumbed with rhigolene, and the nail torn from its attachments. The wound should be thoroughly cauterized with the solid nitrate of silver.*

* *Writers on the Nails.*

Albinus, Albucasis, Astruc, Béclard, Besserer, Bleck, Boyer, Brachet, Cooper, Desault, Dionis, Donzel, Double, Dudon, Dupuytren, Esmenard, Fabricius, Faye, Foerster, Follin, Frank, Gautier, Gosselin, Green, Guilmot, Gurlt, Harley, Hasse, Hebra, Jardon, Kleinhans, Lawrence, Lélut, Ludwig, Michaelis, Nayler, Nurnberger, Paré, Pigeaux, Rayer, Robbe, Royer-Collard, Simon, Sinds, Valentin, Vernois, Vesigne, Virchow, Wardrop, Werner, Wilson.

H A I R.

The hair may be excessive either in quantity or length. This excess is general, or limited to particular regions of the body. It often takes place on those parts which are usually covered with hair in adult life, as the head and pubes.

Overgrowths of hair have been denominated "hirsuties" by most writers on this subject. We shall describe these hypertrophies under this name. The hair is sometimes misplaced; as, for instance, a tuft of hair belonging to the pubes may be situated at the distance of one or two inches from this region. These anomalies are easily perceived by an intelligent observer. There is no occasion, therefore, to describe them in detail.

HIRSUTIES.

Hirsuties is sometimes congenital; while, at others, it appears in consequence of a cutaneous, or an enteric, disease, during adult life. Occasionally, this form of hypertrophy or overgrowth of the hair takes place in advanced life.

The hair of the head and pubes is usually that which becomes excessive in women, while the beard is the seat of this hypertrophy in men.

Hirsute, or bearded, women are not unfrequently seen; and the premature, or even the natural, loss of the sexual function, in the female, is sometimes attended by the partial appearance of this attribute of the male sex. Thus the upper lip, in women who have ceased to menstruate, occasionally becomes covered with a considerable growth of hair; so much so, as even to necessitate the use of the scissors or razor; and many of the masculine qualities seem to be developed in consequence of the cessation of this function.

Some hirsute, or bearded, women possess all of the feminine qualities which belong to their sex. In them, the overgrowth of hair has its origin in a congenital predisposition, and is entirely independent of those special physiological influences which concur in the production of the beard as a distinctive feature of manhood. An interesting account is given by Dr. Chowne, in the London "Lancet," of two sisters whose faces were remarkable for their hirsute condition; as were also some parts of their bodies. In every other respect, they

possessed strictly feminine qualities. The hair on the face was downy at birth; but grew very rapidly at the age of puberty, becoming both coarse and long.*

The growth of the beard, and of the hair on the pubes, is simultaneous nearly with the perfection of sexual development. In eunuchs and hermaphrodites, there is deficiency in these sexual distinctions. Congenital and premature hair on the pubes has been mentioned by some observers. Excessive length and thickness of the lanugo is frequently seen at birth. Occasionally, this is shed, and replaced by lanugo of the ordinary length and thickness. The same remark holds true, but in a less degree, in regard to the hair of the head.

Hypertrophy of the lanugo occurs very frequently, on the anterior part of the chest and abdomen, in the male sex; the length of the hair, in these situations, being from one to three inches.

Supernumerary tufts, and patches, of hair have been seen on various parts of the integument, and of lengths varying from one to several inches. The texture of the skin seems to be unaltered in these situations; and, in this respect, they differ

* *Lancet*, vol. i. 1852, and vol. i. 1853.

from the hairy naevi. Dufour describes the case of a young man, from whose sacral region grew a tuft of thick, black hair, as long and pliant as that of the head. The texture of the skin, in this instance, was unaltered. A similar case was shown to Rayer, "in which there was a large tuft of long, black hair growing from the shoulder." A case of this kind was lately sent to the author, in the Skin Department, at the Boston City Hospital. The subject of this local overgrowth of hair was a man, forty-five years of age; and the color and texture of the skin, in the hirsute region, were perfectly normal. The hair grew from an oval patch, situated immediately below the right scapula, and measuring three and a half inches in the long axis, by three inches in the short one; and was about as coarse as that of the head, above two inches in length, and inserted obliquely, so that the direction of its free extremities was downwards, and towards the spine.

Many of these tufts of hair first appear at the age of puberty.

Excessive development of the hair of the chin and upper lip has been occasionally observed in young women with disordered menstruation.

As regards excessive growth of hair upon the head, Rayer says, "I once saw a Piedmontese, aged twenty-eight, strongly built, having the chest broad and large, and the muscles of an athlete. This man had little beard, and the trunk was very scantily furnished with hair; but his scalp was covered with the most extraordinary crop: frizzled on purpose, it was above four feet ten inches in circumference. The hair was of a dark brown, approaching to black, extremely fine and silky."

Blisters and irritating applications, when frequently repeated or long continued, have, in several instances, produced an excessive crop of hair on the parts of the integument to which they were applied. Examples of this kind are cited by surgical and other writers.

Hunter describes "a sore which had continued inflamed a long time, where the increased action had made the hair grow." Paget says of this case, of which the specimen is still preserved, that "the integuments, for about an inch round the ulcer, where probably there was simply increased supply of blood, are covered with thick-set, long, and rather coarse, dark hairs; while, on the more distant parts of the integuments, the hair is paler, more slender, and more widely scattered."

Increased supply of blood, unusual warmth and moisture, are cited by Paget as causes of the local overgrowths of hair which occur near the ends of stumps, long inflamed, and about diseased joints, and fractures. He gives the following illustration: "I remember one very striking case in the thigh of a child about five years old. The femur had been fractured near the middle: the case did not proceed favorably, and union was not accomplished without much distortion. When I saw the child, I was at once struck with a dark appearance on the thigh: it was all covered with dark hair, like that of a strong, coarse-skinned man; yet, on the rest of the body, the hair had all the fineness and softness which are proper to it in early life."

Boyer and Rayer have likewise observed similar cases.

The influence of premature sexual development, on the growth of the lanugo, is shown in the following case, which has been cited by Rayer: "Moreau de la Sarthe showed a child to the Medical Faculty of Paris, in whom the precocious development of the testicles had influenced that of the hair to such a degree, that, at the age of six years, the chest of the boy was as thickly beset with hair as

it is usually in adults." "On the other hand," says Rayer, "it is well known that eunuchs often lose the greater part of their beards."

Treatment.

In cases of extensive hirsuties, nothing can be done; and, even where the disease occupies but a limited portion of the skin, it is advisable to either use the razor or let the deformity alone. Epilation is both painful and ineffectual in its results. Frequently, a more luxuriant growth of hair succeeds this operation, in consequence of the irritation of the papillæ and hair-follicles.*

* *Writers on the Hair.*

Ætius, Albinus, Avicenna, Bärensprung, Bajerus, Bergen, Bienvenu, Bidder, Boehmer, Bose, Boyer, Bueck, Burlin, Chirac, Cuvier, Eble, Eve, Fox, Galen, Girou, Good, Grellier, Henning, Heusinger, Hippocrates, Junius, Kleinhans, Kneiphof, Languth, Lanoix, Lorry, Malpighi, Mandl, Mariotte, Meibomius, Mercuriali, Mueller, Nayler, Oegidi, Ollivier, Paget, Paulus, Pfaff, Plemp, Schmige, Sennert, Sorace, Solwick, Thomson, Walter, Wedemeyer, Wilson, Withof.

PIGMENT.

An excessive deposit of pigment in the skin occurs from a great variety of causes, which, however, may be classified under two distinct heads, — traumatic or physical, and those which are of a physiological and pathological nature. To the former variety of causes may be attributed those pigmentary affections which depend upon the influence of the solar rays, during the summer season or under a tropical climate. Caloric from artificial sources, such as long-continued exposure of the legs to an open fire or over a charcoal brazier, produces similar effects. There is no difference between an erythema solare and an erythema ab igne, as regards the pathological processes or their results. More or less pigment is deposited in the skin in both cases. Occasionally, we have the same result from the application of a blister. In most instances, the superabundance of pigment is deposited in the skin under the direct influence of the rays of the sun, which, from their intensity, give rise to the phenomena under consideration.

Erythema is a marked symptom of sunburn, and of the undue application of artificial heat or of a blister. Pigmentation occurs, to a greater or less extent, in consequence of this morbid process. Both the erythema and the pigmentation are of a transient character, in most instances.

Lentigo, or freckles, is a pigmentary affection, which is produced under the immediate influence of the solar rays, and without the intervention of any erythematous process. The deposition of pigment in lentigo is a chemico-vital phenomenon, of which there is little, at present, definitely known. It is probably one of the results of a catalytic process, for which a certain degree of intensity of the sun's rays seems to be requisite.

"Ephelis" is the generic term which has been applied to sunburn, or tan, to freckles, and to the pigmentary deposit in the skin from erythema ab igne. We have, therefore, the following varieties of ephelis: ephelis umbrosa, sunburn, or tan; and ephelis lentigo, or freckles. Ephelis ignealis, or the pigmentary discoloration of erythema ab igne, is improperly included under this title by some writers. The generic term "ephelis" is, in this case, a misnomer, and ought to be abandoned;

since the morbid appearance which it indicates belongs to another class of cutaneous affections.

Lentigo is the only variety of pigmentary discoloration, from the immediate influence of the solar rays, that it seems necessary for us to describe in particular. A description of this affection will be given, after a brief discussion of the causes that produce those pigmentary discolorations of the skin which seem to be altogether independent of external influences. They are the affections previously mentioned as due to physiological or pathological causes, and may all be included under the following names: chloasma; bronzed skin, or Addison's disease; and slate-colored skin, or nitrate-of-silver stain.

There are also discolorations of the skin from syphilis, cancer of the stomach, and some organic diseases of the viscera.

The conditions under which an increased deposit of pigment takes place in the skin, are to be determined both from physiological and pathological data; since the importance of elucidating this question justifies us in using whatever facts or circumstantial evidence we may obtain from either of these sources.

We propose, therefore, to demonstrate as clearly as our data will allow, that the deposition of pigment in the skin, under certain physiological and morbid conditions of the economy, depends upon the influence of the ganglionic nervous system, and especially those portions which constitute the semi-lunar ganglia and solar plexus. We are well aware of the difficulties to be encountered in the discussion of a subject which has occupied but recently the attention of so many able observers and writers.

But a careful consideration of their facts and arguments points to conclusions that are logical, at least; and must, for the present, be considered theoretically, if not substantially, true.

We do not wish to be understood as bringing forward a new theory in regard to pigmentation; but rather as demonstrating, from the facts already presented by many excellent observers and writers, one that has hitherto had its foundation in the simple assertion, — that this or that fact showed the excessive production of pigment, in bronzed skin, dependent on some disturbance of the ganglionic nervous system. No generalization has yet been made of the physiological data, in relation to pig-

mentation. Our task, then, is both novel and interesting.

Most of us must have observed that there is a sensible increase in the amount of pigment deposited in the skin in certain regions, under well-determined conditions; such as, for example, in the areolæ, during gestation, and the integument of the abdomen and forehead, in some instances, under similar circumstances, when they become quite tawny; or in the external genital organs and perineum, in both sexes, at the age of puberty. These discolorations are dependent on the condition of the nervous system; since they are, more or less immediately, connected with veritable nervous phenomena. How shall we account for pigment in the areola, during gestation, except that it be deposited through the agency of the sympathetic nervous system? So likewise does the color of the hair augment or diminish under the same general influence. Cases of the former kind are of rare but undoubted occurrence; while, of the latter, there are many memorable instances. We will recall but a few of them.

The phenomenon, so well authenticated, in the case of Marie Antoinette, the wife of Louis XVI.,

whose hair became gray, in a short period, from grief; of Mary, Queen of Scots; and of Sir Thomas More, whose hair became gray during the night preceding his execution, — can be explained most satisfactorily on the supposition that the disappearance of the pigment in these instances was intimately connected with the disturbed condition of the emotional or sympathetic nervous system. Bichat records several instances of this sudden blanching of the hair, from depressing mental emotions. The hair of an acquaintance of his became blanched in a single night, on the reception of some distressing news. We could easily multiply examples of this kind; but those already mentioned will be sufficient to illustrate the fact that certain conditions of the sympathetic nervous system are productive of disorders in pigmentation. More will be said on this subject when we consider the theories in regard to the causes of bronzed skin.

LENTIGO, OR FRECKLES.

Lentigo consists of small yellowish or brown spots, separate or in clusters, and scattered very generally over those portions of the integument

which are habitually exposed to the sun; such as the face, neck, and chest, and the external, or dorsal, surface of the hands and fore-arms. They are also seen on the legs, in children, and those who expose themselves in a similar manner. The spots vary in size from that of the head of an ordinary pin to one or more lines in diameter. When they are of the latter dimensions, the skin presents a dirty-brown color, which is quite detrimental to its appearance.

Youth has been cited as the age prone to this affection. Freckles are even supposed by some to be congenital or hereditary.

Lentigo occurs most frequently in persons who have flaxen, red, or auburn hair, and a sandy complexion. Excessive exposure to the sun, in spring and early summer, is generally thought to be the cause of freckles. Some writers are of the opinion, however, that the direct action of the solar rays is not necessary for their development.

In this affection, the morbid coloration occupies the whole thickness of the epiderma. Either its cells become colored by imbibition, or the molecular condition of their contents is changed.

Treatment.

A moderate amount of stimulation of the skin is advisable, in the treatment of lentigo. This may be obtained by ablutions, twice a day, with juniper tar soap, or by the application of a lotion of the bichloride of mercury, containing two grains to the ounce of emulsion of bitter almonds, or weak lotions of the mineral and vegetable acids.*

CUTIS MACULOSA.

We have seen a maculated condition of the skin, which, from all that we can learn, is of congenital origin. It affects the integument of the back, in young children; and produces an appearance not unlike rubeola nigra. The skin is permanently mottled with a dark-brown pigment, similar in color to that seen after some of the syphilodermata. Whether this deposit of pigment occurs in consequence of some efflorescence of the skin before

* *Writers on Lentigo, or Freckles.*

Alibert, Bärensprung, Bateman, Bazin, Cazenave, Chausit, Dendy, Duchesne-Duparc, Gibert, Good, Green, Innis, Kleinhaus, Neligan, Pouchet, Rayer, Swediaur, Thomson, Wilson.

birth, or during infancy, are questions that we are, at present, unable to answer.

CHLOASMA.

Chloasma, according to dermatologists, is a yellow or greenish-brown discoloration of the skin, that commences in small, circular patches, situated on the chest, neck, abdomen, or extremities, and attended, at first, by considerable pruritus. After a few weeks, or months, the pruritus ceases, the patches become confluent and desquamate.

The different descriptions which have been given of chloasma are equally applicable to the parasitic affection known as "pityriasis versicolor." Those who deny the cryptogamic origin of the last-named skin-affection continue to describe chloasma as a distinct species of pigmentary disease.

From a careful examination of the literature of the subject, we consider macula hepatica, ephelis, pityriasis nigra, and chloasma only different varieties, or degrees, of pityriasis versicolor.*

* *Writers on Chloasma.*

Cazenave, Dendy, Fox, Gibert, Green, Hardy, Kleinhans, Nayler, Neligan, Rayer, Thomson, Wilson.

BRONZED SKIN.

Bronzing of the skin is a physiological, as well as a pathological, phenomenon. The former variety, however, is less extensive, and is limited to particular regions: such as the forehead, and the areola of the mamma, in pregnant women. Sometimes, also, the front of the abdomen presents a bronzed appearance, during pregnancy. In the natural condition, the external genital organs are much darker than the surrounding integument. This excess of pigment first appears during the rapid development of the sexual organs, at puberty; and is much more noticeable in brunettes than in those of a blond complexion. In the negro, this phenomenon is quite striking, and at once attracts the attention. The dorsum of the penis, in the male, is the part in which the color is deepest.

The situation, extent, and duration of these local discolorations, together with the antecedent and concomitant symptoms, clearly distinguish them from those cases in which the bronzing of the integument is of a more general and serious nature.

ADDISON'S DISEASE.

Bronzed skin, morbus Addisonii, mélasma suprarenale, mélanodermie asthénique, asthénie surrénale, are names given to a disease, the essential symptoms of which may be thus stated: constantly increasing feebleness, or asthenia; gradual, but progressive, bronzing of the integuments; obstinate vomiting; persistent and intense lumbo-abdominal and epigastric pains; and finally death. The duration of this disease is from three months to two or three years; and the asthenia and bronzing of the skin are its most constant symptoms.

The cause of these morbid phenomena has been attributed, by Addison, to lesions of the suprarenal capsules.

How far this theory is consistent with our present knowledge of the subject, will be considered, after a brief history of the general and concomitant symptoms, noticed in this disease.

For convenience of reference, all of the cases, thus far reported, of this morbid condition, have been collected by M. Jaccoud, and tabulated under the three following heads: —

- I. Melanoderma with lesions of the supra-renal capsules.
- II. Melanoderma without lesions of the supra-renal capsules.
- III. Lesions of the supra-renal capsules, without melanoderma.

The tables give, in separate columns, the name of the author, bibliographic sources, sex and age of the patient, duration of the disease, antecedent and principal symptoms, condition of the supra-renal capsules, and the state of other organs. One hundred and twenty-seven cases of bronzed skin, with lesions of the supra-renal capsules, or morbus Addisonii, constitute the first table; seventeen cases of bronzed skin, without lesions of the supra-renal capsules, form the second; and fifty-eight cases of lesions of the supra-renal capsules, without bronzed skin, compose the third, or last, series of observations: making, in all, two hundred and two cases of disease, most of which have a striking resemblance, in symptoms, course, and termination.

Let us now consider, more thoroughly, the general and concomitant symptoms manifested by those cases of bronzed skin, with lesions of the supra-renal capsules. Subsequently, we will compare these symptoms with those of the second and

third series of cases, in which there is, respectively, bronzing of the skin, without manifest lesion of the supra-renal capsules; and disease of these bodies, with no obvious discoloration of the integument. We shall thus see whether the supra-renal capsules play a principal or secondary part in the genesis of these morbid manifestations.

Whatever opinions we may have previously formed, in regard to the pathology of Addison's disease, let us consider, when we shall have examined all of the facts before us, and weighed them impartially, whether, judged by the laws of physiology and pathology, as at present interpreted, they do not all lead us to the same irresistible and uniform conclusion,—that the series of phenomena, of which Addison's disease forms but a part, may be regarded as symptomatic only of some functional or organic disturbance of the ganglionic nervous system; especially of that portion denominated the semi-lunar ganglion, or solar plexus; that this disturbance may have its origin in the nervous centres of these ganglia, or in the organs in immediate connection with them; and that this portion of the nervous system, being the regulator of nutrition, or organic life, and of the cutaneous

secretions and excretions, becomes thereby the cause of disturbance of these functions, when it is itself diseased or disturbed.

In the majority of cases of Addison's disease, contained in the first series, of one hundred and twenty-seven observations, obstinate vomiting, and persistent lumbo-abdominal and epigastric pains constitute the prominent symptoms. To these may be added the occasional occurrence of headache, vertigo, convulsions, and muscular twitchings of the face and fore-arms, delirium, and coma. Palpitation and dyspnœa, also long-continued acceleration of the pulse, were, in a few instances, most probably associated with disease of the heart or pulmonary organs. The incompleteness of many of these observations, as regards the examination of the brain and spinal cord, and the organs of respiration, renders the occasional occurrence of morbid phenomena, on their part, of much less consequence than it would otherwise be.

Absence of the usual conditions that are found in asthenia of a marked character, such as extreme emaciation, albuminuria, anæmia, or leucocytosis, is an important feature in the diagnosis of Addison's disease; and it was the absence of such symptoms

that first attracted the attention of this able observer to the disease which now bears his name.

Addison's disease usually commences with symptoms of asthenia, vomiting, and lumbar and epigastric pains. These phenomena are succeeded, in a few weeks or months, by a more or less extensive bronzing of the skin. This membrane becomes deep brown, olive green, mulatto, or sepia colored. Those portions of the integument which are usually uncovered—such as the face, neck, hands, and arms—are first to become bronzed. The external genital organs are frequently attacked at about the same time.

The distribution of this discoloration is quite uniform, except in the early stage of the disease. At this period, the pigment is deposited in small patches, as in some cases of lentigo, which soon become confluent; while the skin, in the affected regions, presents a more or less uniform dusky or dirty-brown appearance, previous to, and simultaneously with, this ever-increasing deposit of pigment in its reticular texture. In these general features, the disease described by Addison differs from the limited patches of piebald skin, or displacement of pigment, due to local asthenia.

Let us now consider the general symptoms of the patients in the next series, in which seventeen cases of melanoderma, or bronzed skin, are reported, without there being lesions of the supra-renal capsules. The extent of morbid discoloration is not stated, in the table, in seven cases; it was partial in eight, one of which is doubtful; while, in the two remaining cases, this condition was evidently due to irritation of the skin from pediculi corporis, in one instance; and, in the other, the only case that at all resembles Addison's disease, the bronzing of the skin was rapidly developed during the three days previous to death, in a person who had a general eczema, five weeks before that event. The explanation of these symptoms will be given when we speak of the pathology of this disease: suffice it to say, that the progressive asthenia, the obstinate vomiting, and other nervous phenomena, observed in these cases, are all referable to diseases of the abdominal and thoracic organs. These diseases are produced either by derangements of nutrition in certain organs, consequent on a morbid condition of the sympathetic nervous system, or the ganglionic centres are implicated by the diseased or injured organ.

Let us now consider those cases of lesions of the supra-renal capsules without melanoderma; and which constitute a fourth of the whole number of observations, associated together under the name of "Addison's disease." A careful examination of them shows that in only four out of the fifty-eight cases were the peculiar symptoms of Addison's disease manifested: such as the marked asthenia, the obstinate vomiting, and other nervous phenomena. In one of these instances (obs. 44), there was absence of vomiting; and the asthenia was produced by disease of the spleen, hemorrhage, and phlebitis. Three cases remain for our consideration.

In the first case (obs. 12), the asthenia was associated with anæmia, vomiting, and syncope; and the supra-renal capsules and pulmonary organs were in a tubercular condition. The capsules were augmented in volume, and contained nodules of a pale yellow color, which were caseous and cretaceous in places. The duration of the disease was only six weeks; and the patient was a man, aged twenty-six years.

The second case (obs. 19) was that of a man, aged forty-six years. The symptoms of this patient

were excessive anæmia, pulsations in the epigastric region, vomiting, and pains in the region of the stomach. The right supra-renal capsule was transformed into a sack, filled with granular matter of a chocolate color; while the left still contained a little of the medullary substance. No lesions were found of the other organs: the head, however, was not opened. The duration of the disease is not stated. In this case, there had evidently been congestion, or hemorrhage into the supra-renal capsules. Brown-Séquard has seen hyperæmia, and subsequently hypertrophy of the supra-renal capsules, in consequence of wounds of certain portions of the spinal cord.*

The third case (obs. 54) of disease of the supra-renal capsules without melanoderma, was that of a man, aged thirty-one years, and in whom the duration of the affection was four months. Asthenia and continual lumbar-pains were both marked symptoms; in addition to which, sensibility was abolished in half of the face, and obtuse in the inferior extremities. There was incontinence of urine. There was no leucæmia. The supra-renal capsules were augmented in volume, and completely

* Martineau, p. 18.

transformed into white, albuminous masses, smooth to the cut, and of a lardaceous consistence. The lesion was judged to be recent, on account of the absence of yellow and cretaceous matter. The right semi-lunar ganglion and its efferent branches were united with the mass; while the left ganglion was free, but its branches were surrounded by the tumor. There were no other lesions. We have, in this case, a complex array of symptoms, evidently due to a lesion of the cerebro-spinal system, and to the ganglia of the sympathetic, to which the condition of the supra-renal capsules appears to be only secondary.

Let us now examine the character of the lesions, in those cases in which there was absence of asthenia and obstinate vomiting. Cancer of the capsules and other organs was found in twenty cases; tubercles were found, more or less generally, in eight, — and partially, in five; inflammation of the kidneys existed in four cases; while the rest were of a miscellaneous character, and consisted of one or two cases each, of the following diseases: scrofula, caries of the vertebræ, senile marasmus, typhoid fever, epilepsy, puerperal convulsions, abdominal tumor, and rupture of aorta. Thus it will be

seen that the majority of these fifty-eight cases exhibited either cancer or tubercles, as the local and general lesion.

It will be interesting to know whether the melanoderma, or bronzed skin, depends upon the character of the lesion; since it did not occur in any of these cases, of which cancer and tubercles constitute so large a proportion.

On examination of the series of one hundred and twenty-seven cases, in which there was disease of the supra-renal capsules with the co-existence of bronzed skin, it appears that, in those instances where both capsules were affected, there was scrofulous or caseous transformation of these organs in thirty-eight cases, and tubercles in forty-five. In ten cases, there was abscess of these organs; in seven, atrophy; in six, hypertrophy; in four, cancer; in three, fatty degeneration; in two, cystic transformation; and in one, simple congestion. Thus, scrofulous or caseous transformation and tubercles constitute three-fourths of those cases in which there was disease of both capsules.

The following lesions were found in those cases in which only one supra-renal capsule was affected: tubercles in three; cancer in three; cysts in two; and scrofulous or caseous transformation in one.

In the seventeen cases in which there was melanoderma without lesion of the supra-renal capsules, there were four of which no details are given, and two in which no lesions were found of the other internal organs. Cancer or tubercles were more or less general in the remaining eleven cases.

The presence of cancer and tubercles in so large a number of cases, both with and without the existence of supra-renal disease and bronzed skin, leads us to the conclusion that they are only secondary products, from deficient innervation of the tissues, consequent on ganglionic disease. The solar plexus is the part most frequently disturbed; and the effects of this disturbance are most sensibly felt by those organs over which its immediate influence extends. Thus, the supra-renal capsules, or glands, which are closely connected with those portions of this plexus denominated the semi-lunar ganglion, are usually the first to suffer, when these ganglionic centres are the seat of disease.

The liver, the lungs, the kidneys, and the skin are all associated together by means of the ganglionic, or sympathetic, nervous system. The phenomena of cutaneous absorption and excretion, and the production of color are likewise under the con-

trol of these centres of organic life. Changes in the condition of these nervous centres, from whatever cause, may implicate one or more of the organs with which they are intimately or remotely connected. The whole train of symptoms peculiar to Addison's disease can thus be produced; and a satisfactory explanation afforded of the various phenomena whose causes have been too readily ascribed, by physiologists and men of science, to disease of the supra-renal capsules.

Thus far, we have seen that Addison's disease may be produced without the agency of the supra-renal capsules. We do not, however, mean to deny their influence altogether, in the production of these morbid phenomena. It is certain that the nervous centres of the sympathetic may become affected through reflex irritation from some immediate or remote organ connected with them, which is itself either injured or diseased. The supra-renal capsules, from their proximity, are more liable than other organs to be the source of this irritation. It is the condition, however, of the nerve-centres, and not of the capsules, as many have supposed, that causes the nervous and other morbid phenomena of Addison's disease. The

supra-renal capsules play, then, only a secondary, or subordinate, part in its production.

It may be asked, What office is performed by these bodies in the animal economy? We believe, with many physiologists, that they are embryonic structures, similar in character to the thymus gland. Their large size in the foetus strengthens us in this opinion. They are blood-glands, whose functional activity becomes rapidly diminished in adult life; as does that of the thymus. The latter organ, however, is rarely diseased; whereas, the supra-renal glands, being situated in a region of unusual activity and excitement, the centre of nervous communication, and of supply, of various important organs, are liable to become irritated, and to have their nutrition disturbed or entirely changed. We cannot wonder, then, affected as the ganglionic nervous system must be, in Addison's disease, that there should be immediate and serious disturbance in these glands; especially when the shock is felt in other and remote organs, such as the liver, spleen, kidneys, heart, lungs, and mesenteric glands.

The congenital absence of the supra-renal capsules, in a few cases, shows that they are not so

essential to life as has been supposed by some physiologists. Neither is this necessity of them to life conclusively demonstrated, when death follows their ablation; since the fatal result is much more satisfactorily accounted for by the injuries done to the semi-lunar ganglion or solar plexus, and the peritoneum, in the operation for their removal.

The presence of the supra-renal glands in the albino must still be accounted for, if these organs are the regulators of the chromatogenous functions of the skin; and their existence in the negro cannot easily be explained, if we suppose them to be endowed with the property of destroying the pigment in the blood. Occasionally, moreover, we have an albino negro, or a negro loses his color, or a white man becomes bronzed or black. These phenomena can best be explained by considering them the results of disease, or disturbance, in the nervous centres of organic life. Impressions are made upon these nervous centres, through the medium of the cerebro-spinal system, from without; while diseases arise in them, in consequence of morbid conditions of the abdominal, thoracic, and pelvic organs. The ganglionic system may also be primitively affected; and this is probably the

case, in nearly all of the observations which have been recorded as undoubted instances of Addison's disease.

Even slight irritation of the nervous centres of organic life is sufficient sometimes to produce marked changes in the sensibility, nutrition, and color of the skin. Thus, for instance, in urticaria, we have both the sensibility and nutrition of this membrane suddenly increased, by irritation of the gastro-intestinal organs; while, in long-continued irritation from animal parasites, there is an excessive quantity of pigment deposited in the skin.

We are, indeed, in a complicated circle of vital phenomena, inexplicable by any other theory except that which has fixed their origin in the nervous centres of organic life. Addison's disease should then be ranked with Grave's disease, as a neurosis of the sympathetic, or ganglionic system of nerves. The affection of the supra-renal capsules, or glands, in the former, and of the thyroid gland, in the latter, are parallel instances in which a symptom has been taken for the disease itself.

Treatment.

Thus far, all medication has proved ineffectual, in arresting the progressive march of this disease. When the diagnosis is thoroughly established, the prospect, both for physician and patient, is gloomy indeed; for the very citadel of life is endangered, when the ganglionic nerve-centres are attacked.

Temporary benefit may possibly be derived from the use of some of the various preparations of iron, or of quinia. Fowler's solution is also worthy of trial. Cod-liver oil should be used, whenever the condition of the stomach will permit. Bromide of ammonium may be employed to check the vomiting; or in conjunction with the bromide of potassium, for the same purpose. Hypodermic injections of the sulphate of morphia will arrest the vomiting; so also will sinapisms applied to the epigastric region.

Blisters over the lumbar region, and applications of the actual cautery, have been recommended, as revulsives, in Addison's disease. Such powerful impressions, made upon the skin, are transmitted through the cerebro-spinal nervous system, by a reflex action, to the ganglionic centres of the sympathetic.

Changes are thus produced in the nutrition of the nervous centres of organic life.

So much depends upon the condition of the nervous centres, in the treatment of this disease, is impossible, until their minute pathology has been more carefully investigated, to speak decisively with regard to the above remedies.*

BLUE DISCOLORATION.

Indigo, administered internally, is said, by Bazin, to produce a blue coloration of the nails. Little, however, is known in regard to this subject.

A more or less permanent blue, or slate-colored

** Writers on Addison's Disease.*

Addison, Benvenisti, Bergmann, Bouchut, Brissonnière, Brown-Séquard, Bucknill and Holmes, Buhl, Buss, Chatelain, Chevandier, Dalton, Danneberg, Demme, Ecker, Frey, Fricke, Goodsir, Gray, Gromier, Gubian, Habeshon, Harley, Hecht, Hutchinson, Jaccoud, Jenffreson, Hahnemann, Köhler, Laguille, Lasèque, Laycock, Malherbe, Martineau, Martins, Mattei, Meissner, Mettenheimer, Meyer, Mingoni, Nagel, Page, Pasquini, Peacock, Puech, Rayer, Schiff, Schmidt, Seitz, Seligsohn, Taylor, Tigray, Tirard, Valentine, Van Andel, Vernay, Virchow, Wagner, Werner, Wilks, Wilson.

The bibliographies of Martineau and of Jaccoud should be consulted with reference to reports of particular cases; since only those authors are cited in this place who have materially contributed to our knowledge of the pathology of the supra-renal capsules and Addison's disease.

appearance, of the skin and mucous membrane has been produced by the prolonged use internally of the nitrate of silver, in the treatment of epilepsy, and other chronic affections.

There is a variety of chromhidrosis in which the face, and occasionally the anterior portions of the body, excrete a blue material. The forehead and the region beneath the eyes are the parts usually affected by this singular modification of the cutaneous excretions. Sometimes the color is of a bluish-black, and is produced very rapidly; so that this material is replaced, in the course of a few hours, after having been entirely removed with a sponge or piece of cloth moistened in water, oil, or glycerine. When the skin is thus made clean, it is found to be of its natural color. Sometimes there is a slight erythematous condition of the part, or the orifices of the glands are distended.

Anomalies of color, in the excretions of the skin, will be described more thoroughly, in a monograph, now in preparation by the author, entitled "Functional Diseases of the Cutaneous Glands." *

* *Writers on Blue Discoloration of the Skin.*

Badely, Bärensprung, Bazin, Billard, Butini, Holthouse, Pouchet, Rayer, Wilson.

BLACK DISCOLORATION.

The following interesting case of black discoloration of the skin is now under our observation: —

CASE. — The patient is an unmarried lady, aged twenty-eight. Her complexion is that of a brunette. About six months ago, she first observed, on rising one morning, a dark discoloration on the most prominent part of both cheeks. That on the left was nearly black. The previous evening she had been busily engaged in sewing by gas-light, and retired much fatigued. She informs me that the dark color could not be washed off; but became quite black on both cheeks. It wore away, however, in two or three days; but has returned a few times since, at irregular intervals, and under the circumstances just mentioned. It first appears in the morning; and is now quite obvious on the left cheek, where it commenced this morning.

The pathology of this disease, which properly belongs to another class of cutaneous affections, will be considered in the monograph to which we have alluded in the previous chapter.

ATROPHIES.

PAPILLARY LAYER OF DERMA.

LINEAR ATROPHY.

THERE is a peculiar variety of atrophy of the skin, that had not been mentioned, we think, by any writer, previous to the year 1861. At this time, some cases were described in Guy's Hospital Reports, where an account of the disease will be found, and an admirable lithographic representation. This variety of atrophy is compared by the writer to the *lineæ gravidarum*, or *cicatrices* that are developed on the integument of the abdomen in pregnant women; and, in position and form, these atrophied portions of the skin bear a striking resemblance, in the two cases. Singular enough, however, the disease under consideration is found in the male, as well as in the female; and on those portions of the integument which do not, at first

sight, appear to be exposed particularly to tension, — such as the arms and thighs.

When the disease is fully developed, it has an elliptic form, and resembles the scar made by a sword or sabre wound. The epiderma is wrinkled transversely to the long axis of the ellipse; and has a silvery-white and somewhat opaque appearance. The subjacent tissue is soft and elastic to the touch. Many of these linear cicatrix-like lesions are seen on the sides and lower portions of the abdomen, and on the anterior surface of the thighs and arms. Sometimes, they first make their appearance above the crest of the ilium, near the lumbar region.

Their long axis is directed transversely and obliquely downward and forward, on the sides of the abdomen; and downward and inward, on the thighs and arms. They vary in length from two to three inches; and, in width, from one to four lines, in their widest part.

When these lesions first make their appearance, the diseased portion of the integument becomes red, and, in some instances, is of a deep carmine color. The color is not uniformly distributed, but has a somewhat curdled, or mottled, appearance,

which probably depends upon the unequal vascularity of the parts. The sensibility is increased in the diseased tissues, at first, so that it becomes quite manifest, by the shrinking of the patient when these purplish places are touched, or pressed upon with the finger. Subsequently, however, there is anæsthesia in the atrophied portions of skin.

But a very few weeks are required for the full development of the disease, and the formation of the resulting cicatriform appearances. The patient, in the mean time, may be apparently in the enjoyment of the most perfect health; his only anxiety being caused by the sudden and unaccountable manifestation of these morbid phenomena.

Linear atrophy usually occurs in fleshy persons, but is by no means necessarily provoked by this condition. It is a rare affection; and, for this reason, we should be somewhat guarded in assigning the conditions requisite for its production. Tension of the skin, however, in consequence of the rapid formation of adipose tissue; undue pressure from within upon the papillary layer; the resisting character of the cornified stratum of the epiderma; and the incapacity of the papillæ to endure much pressure, — are sufficient causes for the absorption

of this portion of the derma, together with the tender cells of the rete mucosum. When once thoroughly obliterated, the papillary layer of the skin is seldom, if ever, reproduced. Thus these linear atrophies are of a permanent character.

The description given of this disease is drawn, for the most part, from a very remarkable case, which presented itself in the practice of Dr. Silas Durkee of Boston. Through the kindness of this admirable dermatologist, the author availed himself of the opportunity of studying the character of this lesion of the skin, while the disease was in full progress. Dr. Durkee fully agrees with me as to the character of the lesion, and its importance in a medico-legal point of view,—as establishing the fact that cicatrices may, in rare instances, be spontaneously formed in the skin, resembling, in all respects, the *lineæ gravidarum* of pregnant women.

The following excellent and truthful description of the case has been kindly furnished me by Dr. Durkee. It is given in his own language.

"The patient consulted me in April, 1868. He was a young gentleman connected with one of the professional schools of Harvard University. He was twenty-four years of age, light complexion, light hair, blue eyes, of medium

height, sanguineous temperament, very fleshy, and weighed a hundred and eighty pounds; general health good, habits temperate. The cutaneous affection consisted of numerous markings or lines situated on the inner aspect of the upper portion of both arms, on the lower part of the abdomen, and on the integument of the upper and inner aspect of both thighs. Fourteen of these markings were on the right arm, eight on the left arm, twenty-seven on the abdomen, eight on the right thigh, and seventeen on the left thigh. They were of different sizes. Those on the abdomen were the largest, and varied from one inch to three inches in length, by about the fourth of an inch in width. They were arranged nearly parallel to each other, were about the third of an inch apart, and were slightly curvilinear, the curve looking towards the umbilicus. On the right side, and one inch from the navel, was one line of an inch and a half in length, which described a perfect semi-circle. Those on the extremities were about half the size of those on the abdomen. They were arranged somewhat obliquely. Their color ranged from a faint lilac to a bright scarlet. They were very tender to the touch. In passing the finger over them, the patient experienced a sharp, tingling sensation, not unlike that produced by a delicate electric spark.

"In drawing the finger along the morbid integument, a sensation was imparted as if all the deeper portions of the derma had been chiselled out, thus producing a distinct and well-defined furrow or channel. Nothing remained but the capillary plexus, the nervous loops, and cuticle.

"The abnormal action began first in the integument of the lumbar region, about six months before I saw the young

man. Here it had completed its work, and had left a few smooth, white, dense cicatrices, in which the capillaries and nervous tissue had been destroyed; so that the scarlet hue and the sensibility of these cicatrices, or scars, were obliterated."

LINEÆ GRAVIDARUM.

Lineæ gravidarum are those cicatriform marks which are seen upon the abdomen, and sometimes upon the thighs, in women who have borne children. They are not, however, the invariable attendants of this condition.

The lineæ gravidarum are most constant in their appearance upon the abdomen; although they are occasionally seen on the breasts, when these organs, previously immature in size, are rapidly developed during pregnancy. They appear at the end of the fifth or sixth month of gestation; especially if there is much distention of the integument. These lesions are very numerous, and have a certain uniformity in their arrangement. They are obliquely situated on the sides and lower portions of the abdomen; and are arranged in concentric rows, the umbilicus being the focus around which they appear to be generated. They are two or three inches in

length, on the sides of the abdomen; and two or three lines in width. Above the pubes, their form is oval; and they are not more than an inch in length. Those on the sides of the abdomen are somewhat branching at their extremities, which are ill-defined.

The color of the *lineæ gravidarum* is a dull white, in some instances; while, in others, they are described as "silvery streaks" in the skin. At first, they present a pink, carmine, or purple tint. This, however, is quite transient in its duration, and seldom arrests the attention of the physician. Instances have occurred, in our own practice, in which the *lineæ gravidarum* on the abdomen bore a striking resemblance, both in color and position, to the remarkable lesions observed by us in the case of linear atrophy under the care of Dr. Durkee.

Both the *lineæ gravidarum* and linear atrophy depend upon the same mechanical causes. Why they should not exist in every case of distention of the skin, cannot easily be explained. They are found in ascites, and in distension from abdominal tumors; but vary in extent, in different individuals.

NAILS.

Atrophy of the nails is of rare occurrence, and is seldom an independent disease.

Congenital deficiency of these organs on some or all of the fingers is mentioned by writers.

Diminution in thickness is the usual form of atrophy of the nails. Sometimes they are reduced to thin films.

The nails are shed, in consequence of injuries to the matrix, or of some constitutional diseases.

HAIR.

ALOPECIA.

Loss of hair has been denominated "alopecia," when premature; and "clavities," when it is the result of age. The term "alopecia" is also used to designate both conditions.

Ordinarily, the scalp is the seat of this disease. Sometimes, however, there is loss of the beard, eye-brows, eye-lashes, and lanugo.

Alopecia varies in extent and character, and is

either partial or general, complete or incomplete. When partial, this disease is nearly always confined to the scalp; when general, the other hairy portions of the body, together with those covered by the lanugo, are similarly affected. Alopecia may be called complete when the part is entirely denuded of its piliferous covering; and incomplete, when there is thinning of the hair.

We do not, however, insist on the use of these terms, and employ them only to designate well-marked conditions.

Alopecia, when it occurs in circumscribed patches, is known as "alopecia circumscripta;" if the scalp is almost entirely bare, it is called "alopecia areata." Sometimes the hair falls off in serpentine tracks, commencing at the occiput, and extending, in a band two or three fingers wide, forward over each temporal region. This singular form of alopecia is denominated "ophiasis," by several of the older writers.

Alopecia varies in the rapidity of its production; and is either temporary or permanent in its duration.

Permanent alopecia, or clavities, is an unavoidable consequence of age; while temporary loss of

the hair occurs after many of those diseases in which the general nutrition of the system is seriously impaired.

Thus, after typhoid fever, in the advanced stages of phthisis, in secondary syphilis, and in *lepra anæsthetica*, or *elephantiasis Græcorum*, there is frequent loss of the hair.

The different forms of inflammation of the scalp—such as *eczema*, *impetigo*, *pityriasis*, and *psoriasis*—cause temporary alopecia. *Favus* and alopecia areata are caused by the presence of vegetable parasites, whose nidus is the diseased epiderma around the hair-follicles. Many of these minute spores invade the sheath of the hair, in *favus*, and accumulate, in vast numbers, on the surface of the scalp. These diseases are peculiar to children, especially among the poor; and the alopecia is seldom, if ever, permanent.

Herpes tonsurans is a parasitic disease which causes the shaft of the hair to be split, and broken off, near the scalp, while the root remains intact.

There is a very rare form of alopecia known as "*morphœa alopeciata*." This disease begins with a slight erythematous condition of a portion of the scalp, from which the hair subsequently falls. The

skin, at first, appears to be thickened, or infiltrated, either by the products of inflammation, or by a pathological new-formation. In a case under our care, there is a depression in the centre of each of these circumscribed patches of alopecia, which appears to be due to the absorption of the deeper structures of the skin.

We have seen a young lady affected by congenital ichthyosis, or fish-skin disease, and whose scalp was entirely destitute of hair.

A microscopic examination of the roots of the hair, in many cases of alopecia, gives unsatisfactory results. Sometimes this organ is atrophied, pointed, and easily detached from its sheath; while, at other times, there is an enlarged and distorted appearance of the hair-bulb.

Wagner found the epiderma, rete Malpighii, corium, and hair-follicles normal, in a small piece of skin cut from the scalp of a girl, eleven years old, and who was affected with complete alopecia.

The different varieties of alopecia will be considered in connection with those diseases which are instrumental in its production.

Treatment.

The treatment of alopecia varies with its cause. When it occurs as a consequence of age, and atrophy of the piliferous organs, all our efforts to restore the hair will be fruitless. After typhoid fever, and occasionally after enteric diseases, from the effects of which there is falling of the hair, restoration takes place without any treatment. It may be hastened, however, by stimulating applications. In syphilis, the hair returns, with the amelioration of the other symptoms of the disease.

After eczematous and squamous diseases of the scalp, in which there is thinning of the hair, we may expect its renewal, and hasten it by stimulating lotions.

When the alopecia is caused by a parasitic growth around the hair-follicle, or in the shaft of the hair, recourse should be immediately had to some of the vegetable parasiticides.

The treatment of morphœa alopeciata will be considered in the chapter on morphœa.

Preparations containing cantharidis and ammonia have long enjoyed a high and deserved reputation in the treatment of alopecia. The strength

of these materials should be varied for different cases, and at different periods of the treatment.

The skin must be kept in a slight erythematous condition, throughout the treatment. When the scalp becomes quite tender, we must omit the application for a day or two, since vesication may occur. Some dermatologists employ blisters to the scalp; but these give unnecessary pain to the patient. Besides, vesication is not so favorable to the growth of the hair, as the erythematous condition of which we have already spoken. In erythema, there is vascular engorgement and increased nutrition; while, in eczema, vesication, and similar conditions of the skin, there is serous exudation into the epiderma.

The erythematous process should therefore be considered as an important step, in restoring the skin to its normal condition; and increasing the nutrition of the hair-follicles, and the consequent formation of hair.

The form in which the rubifacients previously mentioned are generally employed, is that of lotions or liniments.

The linimentum ammoniæ of the United-States Pharmacopœia is a good rubifacient for the scalp,

in children. We have seen the hair grow quite rapidly from its use, in cases of favus. Four cases of alopecia, from this cause, are now under our care. In three of them, the ammonia liniment, applied morning and night, is giving excellent results.*

PIGMENT.

ALBINISM, ALBINO.

Congenital absence of pigment in the skin, hair, and choroid coat of the eye is known as "albinism;" and the person thus affected is said to be an "albino." Albinism is a rare form of pigmentary imperfection, and is frequently hereditary. We are acquainted with a family in which albinism has occurred for three generations.

Dr. Good mentions eleven cases of albinism, described by previous writers, all of which were males. We ourselves have seen several perfect albinos, during the past few years, who were all females.

* *Writers on Alopecia.*

Alibert, Bärensprung, Bateman, Bazin, Cazenave, Cooke, Dendy, Devergie, Eble, Erichsen, Fox, Gibert, Good, Green, Hardy, Hebra, Hous, Kleinhans, Lagneau, Luxmore, Macilwain, Milton, Nayler, Pfeiffer, Plumbe, Rayer, Sand, Swediaur, Willan, Wilson.

Albinism occurs both in the white and negro races, but is most striking in the latter.

In the negro albino, the hair is white and woolly; and the irides are without pigment.

The eyes, in perfect albinos, are of a rose, or delicate-pink, color, from the absence of pigment, and are very sensitive to the light. They have a constant oscillating motion from side to side.

Albinism is not peculiar to the human race, but occurs in animals.

The absence of pigment in albinos is due to some modification in the innervation of the parts which are directly concerned in the production of this substance.

Like many of the other congenital imperfections of the skin, this abnormal condition is without remedy.*

LEUCOPATHIA.

The spontaneous disappearance of pigment in spots, or patches, of skin, and the extensive blanch-

* *Writers on Albinism.*

Ballard, Behr, Blandin, Blumenbach, Bory St. Vincent, Bostock, Breschet, Buzzi, Cornaz, Delacouse, Hervieux, Jones, Lecat, Mansfeld, Pouchet, Rayer, Raynaud, Renauldin, Sachs, Schlegel, Wilson.

ing of this membrane, have been described by a great variety of names. "Leucopathia" seems to be the most appropriate term for this affection.

The loss of pigment is not always permanent when it occurs spontaneously in limited portions of the integument.

We have a case of partial leucopathia now under our observation, in which the affected portion of integument seems to be returning to its normal condition. The patient is a healthy little girl, eleven years old, with a fine, rosy complexion, and dark-brown hair and eyes.

When she first came under the care of the author, half of the left eyelash and eyebrow, and a portion of the left temple were milk-white. The contrast between the colored and uncolored parts was singularly striking. The pigment began to disappear about a year ago, and attained the condition just mentioned, in seven or eight months. Other small patches of leucopathia were observed in front of the left ear, and on the same side of the face. There was probably some temporary disturbance of the innervation of the skin, in the parts deprived of pigment.

Gradual and extensive blanching of the skin is a

much rarer affection than the one preceding. A remarkable case of this kind is cited by Dr. Good, in his work on "The Study of Medicine." The subject of this extraordinary loss of color was an American Indian, ninety years of age, and who, during the last thirty years of his life, had been gradually becoming white.

The loss of pigment began, soon after an attack of acute rheumatism, as "a small white patch near the pit of the stomach, which was shortly accompanied with other white spots in the vicinity, that enlarged, and at length intermixed." The blanching continued to spread over the whole body; until, at length, the original color "was only visible on the forehead, and fore part of the face and neck, with a few small patches on the arm." The texture of the skin does not appear to have been perceptibly changed. The case seems to be one of simple loss of pigment, not unlike that which occurs in ordinary blanching of the hair. Rapid blanching of the skin in the negro, after severe fevers or enteric disease, is occasionally known to occur.

LEUCO-MELANOPATHIA.

Disappearance of the pigment in limited portions of the skin, and its superabundant formation in the surrounding integument, are of much more frequent occurrence than uncomplicated leucopathia. This condition, or leuco-melanopathia, seems to be a simple displacement of pigment, without much change in the structure of the skin.

The name "vitiligo" has been applied to this condition, by a few writers; but it properly belongs to those patches of integument which resemble veal-skin, and in which there are manifest structural changes of the rete mucosum and derma. The skin becomes anæsthetic; and the hairs fall out, in the spots affected with vitiligo.

CANITIES.

"Canities" is a term which is used synonymously with "white, hoary, blanched, or gray hair." This condition depends upon the absence, the withdrawal, or the cessation of the supply of the peculiar coloring principle of the hair. The nature of

this material was ascertained by Vauquelin, in the early part of the present century. From chemical examination, he found that the hairs of different tints contained greater or less quantities of fat, of a lighter or darker color. This fat is extracted by boiling the hairs in ether or alcohol. The oils of the hair are described by some writers as consisting of two varieties, — one of a blood-red, and the other of a grayish-green, or greenish-black, color.

The absence of these oils, or some chemical change in them, is productive of canities.

We have only to enumerate a few of the conditions under which this abnormal state of the hair is found; and which serve to distinguish this disease into varieties, as regards its origin or cause.

Absence of the coloring matter has been observed, in several instances, as a congenital phenomenon. Congenital canities is, however, a rare affection. The absence of color has been noticed upon one side only of the head, in a few cases. We have observed a case of this kind, of which a brief notice is given in the Introduction to this work. In this instance, the white hair was in broad bands.

In a case of congenital canities, seen by Thomas

Bartholin, all the hairs of one side of the head were of a shining white, while those on the opposite side were absolutely black.

Congenital canities has occasionally been confounded with albinism, which it resembles to a certain degree, but not in extent and other features.

Tufts of white hair have been observed on the heads of new-born children.

Schenck reports the case of a young man whose beard was white on its first appearance.

A few well-authenticated instances are recorded, in which there seems to have been a sudden withdrawal of the coloring principle of the hair, or some chemical change has caused the destruction of the pigment. Terror and anxiety are cited as the conditions under which these remarkable phenomena have taken place. The most familiar examples to us in history, of the sudden blanching of the hair, under the effects of strong mental and moral emotions, are the cases of Sir Thomas More, Marie Antoinette, and Mary Queen of Scots.

King Henry of Navarre is said to have had a part of his moustache turn white, in a few hours, from chagrin, on hearing of the edict of Nemours.

Progressive, or gradual, blanching of a part or

the whole of the hair is caused, not only by age, but by a variety of other circumstances.

Partial canities, or blanching of the hair, is due, in some instances, to neuralgia of the scalp. We have known long-continued cephalalgia to cause this form of blanching of the hair.

Thus frontal headache causes premature grayness of the hair on the anterior portions of the head. We have seen cases in which a broad band of gray hair was thus produced, while the remaining portions presented their original color.

Persistent hemicrania should produce premature grayness of the affected side. We do not know to what extent this may be true; but we invite the attention of observers to this point.

Lorry mentions severe toothache as the occasion, sometimes, of grayness of only one side; and it is remarkable to what extent the nutrition of parts is altered in consequence of being the seat of severe or persistent pain.

The beard on one side of the face has become altogether white, or white in places, while it retained its normal color on the opposite side. The hair and lanugo are also reported to have become gray on one side of the body, and not on the other.

Age is characterized by the gradual cessation in the production of color in the hair of the head, beard, and that of other parts of the body.

Premature canities, like premature alopecia, is hereditary in some families.

Treatment.

A proper observance of hygienic conditions, a contented and hopeful mind, with freedom from unnecessary anxiety, will assist much in preserving both the normal color and quantity of hair to an advanced period of life.

The only treatment for canities consists in the local application of some approved hair-dye. The salts of silver are the best for this purpose; and an ordinary knowledge of chemistry will enable the practitioner to obtain the most satisfactory results, after a few trials. The hair is not necessarily injured by these applications, when they are of proper strength. Care should be taken not to stain the epiderma, in these experiments. Lotions containing lead are exceedingly dangerous to the health, and should therefore be carefully avoided.*

* *Writers on Canities.*

Bartholin, Bichat, Borellus, Good, Lagneau, Lorry, Nayler, Rayer, Schenck, Wilson.

PATHOLOGICAL NEW-FORMATIONS.

FIBROMAS OF THE SKIN.

LUPUS.

"Lupus" is the name given to a devouring or destructive disease of the skin, in an age when diseases, either from their magnitude or rapacity, were compared with the elephant, the lion, or the wolf.

Virchow thinks there was "a certain practical utility in giving the name of 'lupus' to an important group of destructive morbid products: they were the wolves, the voracious flesh-eaters, of pathology." He does not, however, consider this destructive quality as constituting a scientific basis for the division of tumors. The intimate structure and development of this pathological new-formation in the skin should, in accordance with his doctrines, afford the proper elements for a correct classification of this disease. These will be studied, after a

more careful consideration of the external characters of lupus.

Different varieties of lupus are described, and striking representations are given of this disease, in the various works on dermatology; more especially in those of Willan, Cazenave, Wilson, and Hebra.

The vivid descriptions of some writers have also presented us unmistakable pictures of the ravages of this disease.

"What is lupus?" says a distinguished American dermatologist; and he proceeds to answer this question in the following eloquent and appropriate manner: "In looking over the works of the ancient writers, it is interesting to observe the figurative language they often employ to illustrate their ideas of the forms or the peculiar characteristics of the diseases that attack the human system. In the present instance, the symbol chosen is one of the most ferocious wild beasts that roam in field or forest, and whose very name is suggestive of destruction; and, destruction being the salient feature of lupus, a more appropriate similitude could not be selected." *

* Durkee, Contributions to Dermatology. 8vo. Boston, 1868.

Three varieties of lupus are now generally described,—lupus exedens, lupus non-exedens, and lupus erythematosus. Cazenave has given an account of another variety, denominated by him "lupus with hypertrophy."

Lupus exedens, or lupus vorax, appears as a small nodule in the skin, commonly called a "tubercle." This is circumscribed, hard, slightly elevated, and translucent at first, and accompanied by more or less redness of the part. The tubercle subsequently ulcerates, and is covered with a crust. When this is removed, the surface is either somewhat red and vascular, with an exuberance of newly formed connective tissue, or there is an ulcer of variable depth. Other crusts are formed, in more or less rapid succession, upon the tubercle, while destruction of its tissue goes on beneath and around them. Several new tubercles may arise in the neighborhood, and have a similar course and termination.

The result of this formation and destruction of the so-called tubercles is disorganization and loss of integument. When this process advances with much rapidity, there are often fearful losses of substance, especially when lupus exedens attacks the

integuments and cartilage of the nose. In some instances, a large portion of this organ is swept away in the course of a few weeks, causing frightful deformity of the countenance. All of the soft tissues of the face may be thus destroyed. Nothing, in disease, can be more hideous than the representations of lupus exedens. In horror, have we laid down the volumes which contain them; and it is only by long familiarity with these appearances, as they actually exist in nature, that we can be reconciled to the study, and attentive examination, of these destructive lesions of the skin.

Lupus exedens is not altogether confined to the face, but is seen to attack other parts.

We have observed several cases in which there was destruction either of portions of the nose, exposed to view, or of the septum of this organ. When the disease occurs in young persons, it is often quite rapid in its progress. A few weeks are sufficient for the destruction of the nose, or its septum.

The pain, in this disease, is never very intense; nor is the suffering so great as we would naturally expect from such extensive losses of tissue.

Occasionally, the tubercle of lupus exedens re-

mains somewhat stationary in its development, for a considerable period of time; when, all at once, the diseased action is lighted up, and spreads with fearful rapidity and devastation. The tissues around the new growth, or tubercle, are congested and tumefied, and become the prey of destructive ulceration.

Lupus non-exedens runs a milder course, and is unattended with that destruction of tissues which characterizes the variety just described. Indeed, in most instances, it is only followed by cicatrices which give the skin an eroded appearance.

The face is the most frequent seat of lupus non-exedens. Sometimes it spreads slowly over the nose and a portion of both cheeks, when it is left to pursue its natural course; and thus causes the countenance to become pinched or shrunken.

Lupus non-exedens is peculiar to no particular age, sex, or class of individuals. We have seen it in young men and women, and in the extremely aged. Neither does it appear to be connected with any fixed condition of the system. It comes in the midst of apparently robust health, and runs its course, without sensible detriment to the rest of the organism. Sometimes there is little or no abrasion

of the surface, even where permanent cicatrices are left.

Lupus erythematosus is described by Professor Wilson as "an erythematous redness of the skin occurring in patches of small size, usually on the face; lasting for a long period without change, and terminating in a dry sordid and atrophied surface or in a white depressed cicatrix." We have a case of this kind at present under our observation. The patient is a boy thirteen years old, and the disease occupies the cheeks and nose. It consists of erythematous patches, some of the size of an American dime, circular, oval, or irregular in shape, slightly elevated above the surrounding skin, with a distinct border, and covered in their centres by dry grayish-looking, closely adherent epidermal scales, amidst which may be seen the sebaceous follicles, "filled with horny exuviae."

These patches increase in size very slowly; or remain stationary; or even disappear. They frequently leave a cicatrix behind them. We have watched the progress of this disease, in the present instance, during several months. In most respects, it is closely allied to lupus non-exedens. We remember a similar case, in a young man for-

merly under our care, which resisted all the ordinary means of treatment adopted for acne sebacea; and which we now recognize to have been a case of lupus erythematosus.

Those who have seen this form of lupus cannot fail to be impressed with the truthfulness of Professor Wilson's description.

Lupus hypertrophicus is remarkable for the infiltrated and swollen condition of the integument subjacent to the tubercles. This variety of lupus generally attacks the face; but, occasionally, the lower extremities; and is of long duration, and obstinate to treatment.

Lupus is a new-formation of connective-tissue in the derma, with subsequent ulceration, or absorption of the newly formed tissue, and a portion of the integument which has been invaded by this disease. Cicatrices are consequently formed, as a result of the morbid process; and, in some instances, serious losses of tissue occur, especially when the nose is attacked. The form of the lesion, in this disease, is a nodule or tubercle. These nodules or tubercles consist of bundles of newly formed connective-tissue, the fibres of which are extremely delicate, widely separated, forming curves or meshes which

contain numerous elliptical, or slightly fusiform elements or cells, with nuclei and nucleoli in them. The parenchyma in which the tubercles are imbedded is composed entirely of embryonic tissue; the cellular elements of which are small, round, and brilliant. Excessive formation of connective-tissue usually begins in the depressions between the papillæ of the derma; it also takes place around the sebaceous glands. This is especially evident in lupus erythematosus. Hypertrophy of the sebaceous follicles early attracts the attention in this form of lupus.

The causes of lupus are for the most part involved in obscurity. In some instances, however, it is undoubtedly hereditary, and dependent upon some specific cause. Syphilis is, perhaps, the most frequent *fons et origo* of this, as it is of other hereditary evils.

Treatment.

Decisive measures are required in the treatment of lupus. Caustics are indispensable for the destruction of the tubercles. Constitutional remedies are needed, especially in debilitated persons, or where there is a trace of syphilis. Iron, cod-liver

oil, the iodide of potassium, the mineral acids, and the vegetable tonics should be administered when indicated. Our chief reliance, however, must be placed in the local treatment of this disease. A few of the substances used for this purpose will now be briefly mentioned, with directions for their application.

Nitrate of silver, potassa fusa, and the chloride of zinc are each capable of destroying the diseased tissues. Nitrate of silver can be employed with more safety than the other two substances, since its action is much more limited. The "points" of Squibb, which contain five per cent of the chloride of silver, are superior for their hardness, and are not so liable to break as others. The tubercles should be firmly pressed upon by one of these points, until their substance is broken down and destroyed. A slough is formed in the seat of each tubercle, and is detached very readily at the end of a week. A thin film of chloride of zinc should then be spread over the raw surface, in order to repress any unhealthy granulations.

When the surface to which the caustic is to be applied is of a yielding nature, such as the ala nasi, more advantage may be obtained by smearing the

tubercles with the chloride of zinc in its deliquescent condition. Care should be taken to remove any of the remaining caustic, with a wet rag or a bit of sponge, a few minutes after the application. Cold-water dressings may then be applied. A proper use of the above remedies will generally suffice for the speedy and successful removal of the diseased tissues, and for the cicatrization of the parts.*

KELIS, OR KELOID.

Alibert was the earliest modern writer to call attention to the disease known as "keloid." By him it was classed among the cancerous affections of the skin. Two varieties were distinguished, — the true, and the false, keloid. Later writers have recognized this division.

True keloid is of spontaneous origin, while false keloid is developed in the seat of a cicatrix in the skin. Both are similar in appearance, and in their

* *Writers on Lupus.*

Cazenave, Durkee, Förster, Fox, Hebra, Nayler, Rayer, Rindfleisch, Virchow, Wedl, Wilson.

pathological characters; being new-formations of connective-tissue, or fibromas of the skin.

Keloid appears as an elevated cicatrix; at first, oval or elongated, and, subsequently, of a branching character. Its name is derived from a Greek word which signifies "crab," on account of the prolongations of this tumor, in different directions upon the surface of the skin, bearing a resemblance to the legs of that animal. However fanciful the similitude may appear to be in the present instance, such comparisons are not without their value, since they often aid the memory of the student in recalling the outward features of a disease.

Keloid tumors are usually situated over the sternum, are of slow growth, and do not ulcerate like lupus. Sometimes there are several of these tumors on the anterior part of the chest. We have seen two instances quite recently where each of the patients had more than a dozen of these tumors, of various sizes, in the region just mentioned.

These tumors are white and somewhat glistening or pearly in appearance, with a few small blood-vessels ramifying over their surface. In the keloid of cicatrices, blood-vessels are much more numerous, and give the tumor a pinkish color. The bun-

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Elephantiasis

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ELEPHANTIASIS ARABUM.

CHAS. H. CROSBY LITH 46 WATER ST. BOSTON.

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ELEPHANTIASIS ARABUM.

CHAS. H. CROSSBY LITH. 49 WATER ST. BOSTON.



In colossal magnitude, no disease can surpass the one under consideration. It is proper, then, that it should have been thus named, since elephantiasis Arabum is to other diseases what the elephant is to other animals. Enormous, unwieldy, misshapen, like a huge cylinder the distorted extremity rests on the tumefied foot, which is buried beneath the impending mass of swollen and indurated tissues. The scrotum is sometimes increased to an enormous size, when it is the seat of this morbid process. It reaches the knees, in extreme cases; and sometimes equals in weight the rest of the body. The labia majora, in women, are similarly affected, and acquire the volume of a child's head. The breast, also, is the seat of this form of elephantiasis.

The local character of the disease, its predilection for the lower extremities, the enormous dimensions it attains, all separate it from the elephantiasis of the Greek writers.

Moreover, the elephantiasis of the Greek writers is a constitutional disease that attacks all parts of the external integument, especially the face, and is also developed in many of the internal organs. In a subsequent chapter, the distinctive features of this disease will be more thoroughly depicted.

Many of the morbid conditions of the skin, in which there are excessive overgrowths of connective tissue, have been very naturally associated together under the name of "fibroma." Both kinds of elephantiasis belong to this class of structural changes. Nevertheless, they have each a distinct history; and are morbid entities, as regards their situation, course, internal complications, and termination. Many of the less remarkable developments of this nature — in which the new-formation of connective tissue has been confined to very narrow limits, as in molluscum, verruca, and condyloma, or papilloma, and where the disease has generally pursued a benign course — have been described by us in the less formidable group of hypertrophies of the skin. Having acknowledged the similarity, or identity, in the structural changes of the tissues in many of these apparently dissimilar diseases, let us proceed with the description of elephantiasis Arabum, without dividing our attention any longer between this and other affections with which it has been associated and often confounded.

However much we may know, in regard to the morbid changes in the tissues in many of these diseases, we have yet to learn what connection, if

any, there is between them, in an etiological point of view. Are we at all certain that the causes of these changes may not be as widely different in their character as the diseases themselves are in their external manifestations; or can we safely affirm that similarity or identity in a morbid process necessarily implies the same cause?

The commencement and course of elephantiasis Arabum are thus briefly described by Rasmussen:

"Elephantiasis is ushered in with rigors, followed by great heat, restlessness, headache, and an inflammatory process, which has the character of an erysipelas, extending from the part first attacked, in general the lower extremities, often over a considerable space, with moderate redness of the skin, and a deeply firm, œdematous swelling (lymphatic œdema, Virchow). The lymphatic vessels are early attacked, and run, as hard, red, and tender cords, along the affected part; the lymphatic glands swell and pass into suppuration. The fever lasts, in general, one or two days, and then terminates in copious perspiration. So long as the fever continues, the swelling increases in the part; but after the occurrence of the perspiration and the diminution of the fever, the pain disappears, and in a short time the swelling also vanishes. After the lapse of a shorter or longer time, in general after some months, a fresh, completely similar attack occurs: this, too, may disappear. But after several such attacks, often even after the third, the disease passes into its second stage, the swelling becoming stationary, and being slowly developed

into the well-known deformity which, with respect to the leg, the most usual seat of the disease, is designated as 'elephant-leg,' 'Barbadoes-Madura-foot.' " *

This writer also describes "an apyrexial form of elephantiasis," which is of less frequent occurrence; and is without much or any fever, and with but slight pain in the course of the lymphatic vessels. The part, nevertheless, increases in size and hardness.

Both the general and local symptoms of elephantiasis Arabum are characteristic of the inflammatory process which is taking place in the lymphatic vessels and glands of the affected extremity. The bands of redness, in the course of these vessels, which are tender or slightly painful, and accompanied frequently by enlargement and suppuration of the lymphatic glands; the enormous tumefaction of the parts; their hardness, so different from that of ordinary œdema; and the occasional occurrence of attacks of erysipelas at the outset, and during the progress, of the disease, — clearly point to its origin, or seat, in these organs.

The disturbance in these glands causes an interruption to the passage of lymph, and the subse-

* Edinburgh Medical Journal, p. 324. October, 1867.

quent phenomena which have already been noticed. From the above symptoms, this disease has been termed, by Hendy, "the glandular disease of Barbadoes;" and "Roos" or "Roosbeen," by the Dutch colonists of Surinam. "Roos" and "Roosbeen" are synonymous with "redness" and "erysipelas."

The tumefied parts contain more or less fluid, analogous to lymph; and the lymphatic vessels are enlarged in consequence of the accumulation and stasis of this fluid. Dilatation of these vessels takes place even into the papillæ of the skin, as has been observed by Teichmann.

Virchow thinks that this condition differs from the "œdematous erysipelas" of writers, since there is no erysipelatus inflammation previous to the œdema of the parts. The redness and other phenomena characteristic of erysipelas are, in these cases, only secondary symptoms, even though they should appear to be coincident with the lymphatic œdema.

In this form of elephantiasis, there is, according to Rasmussen, "an exceedingly abundant development of lymphoid cells, forming sheaths around all vessels." The lymphoid sheaths were seen, by this observer, to extend up into the papillæ, and often

to occupy nearly their whole breadth. This condition appears to have existed in those parts where the integument was of a tense and glabrous character; as is most frequently the case on the leg, and especially its superior portion.

A different state of the tissues exists in the integument of the ankle and foot, when it assumes an uneven, papillary, or warty character. Here the papillæ are elongated, often fissured, and scarcely any thing can be seen of the vessels and lymphoid sheaths. Their place is occupied by large quantities of fibrillar connective tissue, which has formed along the course of these vessels. The whole subcutaneous or connective tissue is thus transformed into a tendinous, almost homogeneous, shining mass. This is described as a lardaceous-looking substance, "composed of thick sclerotic bundles of connective tissue entangled in each other, without a trace of fat." As an explanation of these two dissimilar conditions, Rasmussen, from his microscopic examination, says: "Everywhere the thickness of the lymphoid sheaths of the vessels was in inverse proportion to the formation of connective tissue, and in the highest development of the latter they disappeared completely; so that it was quite

evident that the lymphoid cells in these sheaths were the matrix of the entire formation of connective tissue."

Elephantiasis Arabum is peculiar to the tropical and sub-tropical zones, and is more prevalent in some regions than in others. Thus, from its great frequency in Barbadoes, it has long been known as the "Barbadoes leg." It attacks the colonists as well as the natives, but does not seem to be hereditary.

There is considerable variety in the part affected by these fibromatous enlargements. Sometimes, the disease is limited to the leg and foot; at others, it involves the entire lower extremity, or the extremity and the scrotum. Occasionally, both of the lower extremities are the seat of the disease. This condition may be complicated with enlargement of the scrotum. The thigh may be alone affected. The scrotum is, in many cases, the only part attacked. Lymphatic buboes occur in the inguinal region, in all of these varieties.

Considerable variety also exists as regards the form which these enlargements of the lower extremities assume. The tumefaction is sometimes uniform throughout the entire length of the limb;

causing it to appear like a huge cylinder, beneath which the foot is almost, if not quite, hidden from the view. Again, the leg rapidly increases in size, from the knee downwards, so as also to conceal the foot.

The dorsum of the foot is, at the same time, the seat of a similar enlargement.

The Barbadoes leg has, moreover, a lobulated appearance, consisting of enormous folds, constituting distinct masses which overlap each other, and encircle the extremity in a horizontal or somewhat oblique direction.

As regards the surface of the integument, it may be smooth or nearly so, or of a knobbed or warty character.

Elephantiasis Arabum attacks both the young and the old; and the black, as well as the white, races. It is probably due to unfavorable hygienic influences, especially in those in whom the lymphatic system becomes easily deranged.

The cause of elephantiasis Arabum is involved in obscurity; but many facts can be adduced in favor of its climatic origin. Thus, for instance, this disease is endemic in the torrid zone, is peculiar to certain regions, and does not appear to be hereditary.



ELPHINSTONE ALBUM

THE ELPHINSTONE ALBUM

Several conditions combine to produce this disease. Cold, moisture, and a susceptible state of the individual are sufficient causes for inflammation of the lymphatic glands, engorgement of their vessels, lymphatic œdema, or infiltration of the fibro-cellular texture of the skin, with a rapid new-formation of connective-tissue elements, and consequent enlargement or hypertrophy of the extremity thus affected. In the tropics, the cutaneous circulation is more active, on account of the elevated temperature to which the skin is habitually subjected; so that those causes which suddenly diminish the amount of blood in this organ, — and thus produce local congestion of the liver, spleen, or mucous membrane of the intestine, — sometimes, although rarely, act directly on the lymphatic vessels and glands, especially of the lower extremities, causing obstruction and inflammation in them, and the subsequent changes which we have already noticed.

M. Mestre, in his admirable monograph on elephantiasis Arabum, gives an account of the causes which seem to him to be productive of this disease.*

* J. F. G. Mestre, *Essai sur l'Éléphantiasis des Arabes, observé en Algérie*. 8vo. Montpellier, 1864.

He thinks that certain topographical and special conditions, peculiar to hot climates, contribute to the production of these elephantiac intumescences. He says that this disease is ordinarily seen in adults and old people of both sexes; in the poor, domestics, persons badly clothed, and those who habitually walk bare-foot. The oriental manner of sitting is thought, by some observers, to favor this condition; and also the ablutions they are accustomed to make with cold water. M. Mestre thinks somewhat differently; and attributes much importance to the fact that the skin of some persons is constantly bathed in moisture by the abundant transpiration, in hot climates, and thus becomes relaxed, so that the scrotum in the male, and the labia majora and minora in the female, become pendulous, instead of shrunken and corrugated, as they are in the temperate and cold climates. The feet and legs of some persons also become swollen or œdematous at night, in tropical climates. This writer thinks that the malarial fevers of the hot and marshy countries play an important part in the formation of elephantiasis Arabum; and that the plastic properties of the lymph are augmented in warm climates, from the amount of transpiration and the character of

the food. He thinks this disease may arise partly in consequence of other diseases which affect the skin; or it may be coincident with them. Erysipelas or erythema, lichen agrius, eczema, and the syphilodermata have been antecedents or concomitants of this form of elephantiasis. He thinks that "two predispositions are necessary in order that elephantiasis may become developed,—one due to climateric action, and the other dependent on an idiosyncrasy of the individuals." We agree with the writer in his views on this subject.

Treatment.

Elephantiasis Arabum should be treated somewhat differently, according to the various conditions under which the disease may be encountered. When the attack is of a febrile character, diuretics and diaphoretics must be administered. When complicated with malarial fever, quinine is to be given in sufficient quantity, and at such times, as to check the nervous paroxysms. From five to fifteen grains, morning and evening, will be required, in most instances. If the patient is anæmic or cachectic, iron should be administered. Either the proto-iodide of iron, or iron by hydrogen, will

be found useful in these cases. In constitutions tainted with syphilis, the iodide of potassium is often indicated. Where there is erysipelas or erythema, these complications must receive the attentions of the physician. Local applications are indicated of an emollient, anodyne, or astringent character. A saturated solution of the sulphate of iron will be of much service in modifying the local inflammation.

Early in the disease, or immediately after subsidence of the fever, the part may be painted with the tincture of iodine.

Bandages should be carefully applied, and worn for a long time after the attack. The compression which they exercise causes absorption of the serous exudation, and consequent diminution in the size of the part. In cases of long standing, the integument and subjacent tissues become so much indurated that these applications are of less benefit.

Leeches are sometimes applied to the lymphatic enlargements in the groin, at the outset of the disease.

Blisters are thought, by some physicians, to be useful; and, by others, they are held in less high estimation. They should not be applied where

there is erysipelas or erythema. Their action is, probably, both local and through the reflex nervous system; causing a change in the nutrition of the tissues. The patient should, by all means, be kept in bed, in a horizontal position, as long as the disease is acute; and afterwards even, where it is possible, since the size of the extremity will be much diminished by this observance. Removal to a temperate climate has been advised, but is seldom practicable, in the treatment of this disease.

After the above remedial measures have been exhausted, and others suggested by the circumstances of the individual and the complications of the case, we have still in our power sufficient means of attack on these formidable hypertrophies.

Ligature of the principal artery of the part has been quite successful, in one instance, in this country, and subsequently in several abroad, in arresting the growth of these tumors and diminishing their size. Professor Carnochan, of New-York City, first ligated the femoral artery, for this purpose, in the year 1851.*

* J. M. Carnochan, *Elephantiasis Arabum of the Right Inferior Extremity: successfully treated by Ligature of the Femoral Artery*. With a plate. 8vo. New York, 1852.

In some instances, where these growths are nourished by several arteries, the principal ones should be ligated. Elephantiasis of the scrotum has been successfully treated, in many instances, by excision of the morbid growth. This operation was first performed by Larrey, and has been successfully adopted by many distinguished surgeons of recent times. Thus, Roux, Delpech, Liston, Velpeau, Mestre, Esdaile, and other scarcely less distinguished surgeons, have each performed the operation for removal of the scrotum, in elephantiasis Arabum, in one or more cases. James Esdaile, at Calcutta, has operated more times than all others here mentioned. The *modus operandi*, in these cases, is carefully described in the monograph of M. Mestre.

The operation for the removal of the labia majora, when they are affected by elephantiasis, is described and illustrated in a monograph, by M. Boulongne,* on this subject.†

* A. Boulongne, *Eléphantiasis des Grandes Lèvres*. 8vo. Paris, 1861.

† *Writers on Elephantiasis Arabum*.

Alard, Alaret, Bateman, Boulongne, Carnochan, Good, Hendy, Hillary, Hull, Larrey, Ludolfe, Mestre, Rasmussen, Rayer, Rollo, Towne, Virchow, Wedl, Wilson.

ELEPHANTIASIS GRÆCORUM.

Elephantiasis Græcorum differs in many respects from the disease just described; so that nothing but a truthful representation of each of these affections, in their various forms and stages, will be adequate to convey a just idea of the differences obviously existing between them.

We have endeavored to portray the characteristic features of elephantiasis Arabum, as it at present exists in the tropical and sub-tropical regions. We have seen the predilection of this disease for certain limited portions of the body, such as the lower extremities and the scrotum; the enormous dimensions they attain; and the frequent absence of marked constitutional symptoms.

We have now to encounter a disease that is no less hideous in its outward aspect than the one which we have hitherto described; a disease that not only attacks the external integument, but is deeply engrafted in the entire system, and is even handed down to remote generations.

Elephantiasis Græcorum, or the leprosy of the Greek writers, is ascertained, at the present time,

to have a much wider geographical distribution than was formerly accorded to this disease. Originating, as has been supposed, in Egypt, it is now known to exist in the most remote regions of the globe. This form of elephantiasis occurs in India, China, Japan, Australia, and in the northernmost parts of Europe. The wide-spread distribution of the disease, and the terrible character of its lesions have been sufficient to arrest the attention of legislators, as well as men of science.

The medical literature of two thousand years has been diligently examined, that light might be thrown on the history and nature of this scourge. With the accumulated experience of many observers, we are still in the dark, as regards the origin of elephantiasis Græcorum. How it is transmitted from one generation to another is more readily understood. The outward appearances that are produced by this disease, the general symptoms, and the microscopic character of the lesions are much more thoroughly known at present than at any previous time. The task, then, of describing this disease is not so insurmountable as its antiquity, at first, leads us to suppose.

Besides the numerous articles written on this

subject by different observers, in ancient and modern times, special monographs have been composed, and elaborate reports, containing sufficient data for a thorough knowledge of the forms, the external appearances, the symptoms, course, and lesions of elephantiasis Græcorum. We shall avail ourselves of this knowledge, and hasten to describe its outward features, its symptoms, the internal complications, and whatever else may serve to distinguish this disease from the elephantiasis Arabum.

Elephantiasis Græcorum consists of two more or less distinct forms, — the tubercular and the anæsthetic. These are known also as "*lepra tuberculosa*" and "*lepra anæsthetica*." Both of these names are appropriate to the conditions to which they have been respectively given.

The characters of tubercular leprosy are briefly stated as follows: —

"1. Tumefaction, or tubercular thickening of the skin, principally of the face, also of the extremities; less marked on the trunk.

"2. The affected skin is discolored, dark-bronzed, shining; its sensibility much diminished or entirely lost.

"3. The mucous membrane of the mouth and fauces ultimately becomes affected, and the voice altered.

"4. Contraction of the fingers and toes is a frequent symp-

tom, and the phalanges may drop off from ulcerated fissures forming over the articulations, or from sphacelation supervening on ulceration. The entire hand or foot may thus be lost. The constitutional disturbance is much greater in this than in the other forms." *

The anæsthetic form of leprosy, which occurs very frequently in India, presents the following symptoms:—

"1. Anæsthesia of the skin of the face, ears, and extremities, followed in the latter case by atrophy, interstitial absorption, and occasionally ulceration of the benumbed parts, notably of the fingers and toes, with little or no constitutional disturbance.

"2. Large circular superficial ulcers may form on the lower extremities.

"3. The affected fingers and toes become contracted, the joints enlarged, the ends of the fingers broad, flat, or clubbed." †

With the above general outlines of the characteristic features of these two varieties of elephantiasis Græcorum, we will proceed to a closer examination of each. Having seen the anæsthetic variety, we can describe it, as presented to our own observation.

* Report on Leprosy, by the Royal College of Physicians of London. Edinburgh Medical Journal, December, 1868.

† Edinburgh Medical Journal, December, 1868, page 546.

Our account of the tubercular form of elephantiasis Græcorum must be drawn from such representations as are given by the best writers on this subject, and from illustrations that are only exceeded by observations of the disease itself. Thus, the greatest assistance, in this respect, is derived from a careful study of the elaborate monograph of Danielssen and Boeck, on the "*Spédalskhed, ou éléphantiasis des Grecs.*" The descriptions and plates of these authors leave nothing undone, in the illustration of this subject.

The precursory symptoms of the tubercular form of elephantiasis are lassitude, and remarkable stiffness of the muscles of the extremities, above all when the person affected begins to move, after a few minutes' rest; an inclination to sleep, which becomes irresistible as the disease is more developed, so that he sleeps in company, while at work, or during his meals; a sense of heaviness in the limbs, as if they were lead and his body a burden; occasional slight chills or fugitive pains; and, in some instances, oppression about the heart, loss of appetite, nausea, and vomiting. He has a distaste for all occupation, and is tormented by every pleasure; and, with no relish for society, he sits apart in

silence, like one whose mind is full of gloomy forebodings.

Such being the precursory symptoms of this disease, how much more terrible is its aspect when the features become hideous and revolting with the deformities that ensue.

Coincident with, or immediately subsequent to, the above symptoms, an eruption appears on the face, extremities, or the entire body, consisting of crimson spots and patches, which gradually assume a brown color. In size, they vary from that of a lentil to the palm of the hand; and are round or irregular in shape, slightly elevated and pruriginous, with but little pain to the touch, and disappear on pressure. In these places, the skin is tumefied or thickened. The eruption subsides in a few days, weeks, or months; but returns within half a year or a year, with much greater severity. After several such attacks, with similar intervals, it assumes a stationary character, and is of a bluish or somewhat brownish color.

Each of these spots or patches becomes the seat of a tubercle or of several tubercles, and the lanugo, or hair, falls out. As the eruption usually manifests itself first on the face, and especially on the brows, the eyebrows are first to disappear.

This symptom is quite characteristic of the early stage of the Norwegian leprosy, or *spedalskhed*. The large brown patches developed on various parts of the body have received the name of "*morphæa nigra*."

As the disease advances, the tubercles increase both in number and size, and give the countenance a most hideous aspect. The brows, the ears, and other parts of the face are covered with these nodules and knob-like projections; the integuments are thickened, the lips are swollen and somewhat everted; and the whole aspect is hideous. The features of youth become heavy and contorted, so that they have the appearance of age. Tubercles, also, are formed on various parts of the body and the extremities; and the lymphatic glands of the neck, axilla, and groin become swollen. Pain, of a heavy or lancinating character, is felt at night in the limbs.

The sudoriferous glands no longer perform their functions in those portions of the integument where the tubercles are developed; while the sebaceous glands become more active than usual, and secrete large quantities of sebaceous matter. A peculiar shining appearance is thus given to the skin; its

exhalations become fetid, and its sensibility is somewhat obtuse in the portions occupied by tubercles.

An examination of the mucous membrane of the mouth and fauces will reveal the presence of numerous red, soft, and but slightly elevated tubercles. The nasal passages, the tonsils, and larynx, all suffer in consequence of this deposit in, and beneath, their membranous lining. Ulceration often takes place in these tubercles, accompanied by a fetid odor, and occasionally destroying the septum of the nose, the uvula, and other important parts. The eye, also, is the seat of trouble, and the cornea and sclerotica both participate in the morbid changes. Erythema attacks the lids, the eyelashes fall, and tubercles make their appearance. In its progress, the tubercular deposit gradually occupies the different structures of the eye, which, in their turn, become destroyed. More or less pain usually accompanies these manifestations.

The anæsthetic variety of elephantiasis Græcorum is more insidious in its attack than the tubercular; and its course is always chronic. There are occasional chills; and the patient is subject to mental depression, as in the preceding variety of this disease. The precursory symptoms are of long duration; often lasting for years.

Suddenly, without any local symptom, often in a single night, bullæ appear on various parts of the body, and especially on the extremities, which differ in size from an ordinary nut to a pullet's egg. Their contents are of a yellowish-green or milky color. Ulcers form in the site of these bullæ, and are covered with thin crusts; and, in their turn, leave cicatrices. These are denuded of hair, in most instances, or it is very fine and white. Sensibility is also diminished in them.

After a succession of these bullæ, a short interval elapses before the peculiar symptoms of the anæsthetic form of elephantiasis appear. Pemphigus is, however, a certain sign that this form of the disease will succeed.

White patches of various sizes, from a few lines across to the dimensions of the palm of the hand, are frequently among the premonitory symptoms. The sensibility is diminished, and there is slight desquamation of these portions of the skin.

During the appearance of these symptoms, the patient may be otherwise in comparatively good health.

Hyperæsthesia soon manifests itself in some part of the skin, with periodic chills. The parts may

become so sensitive that the slightest touch seems like an electric shock. Large surfaces are thus involved, and the external borders of the fore-arms in particular; so that the patient has to be fed, in order to avoid the suffering that is produced by every movement. Insomnia, loss of appetite, and consequent emaciation, generally accompany these sufferings. Transpiration is impeded, and the skin becomes dry in the portions in which there is hyperæsthesia. Increased sensibility of the skin may last for several years; but is at length followed by anæsthesia, which becomes more or less extensive and complete. In certain places, the skin is pale, dry, and like parchment. In the advanced states of anæsthesia, the patient has a tottering gait, on account of the loss of tactile sensibility in the soles of the feet.

The countenance is pale, thin, and cadaverous, and sallow or somewhat livid. Severe headaches are felt, from time to time, and pain at the root of the nose. The eyes and the eyelids undergo remarkable changes, and the patient complains of insupportable dryness of the eye. The eyelashes fall, ectropion becomes complete, the conjunctiva pale, and the cornea cloudy and opaque. Ulcers

of the cornea are rare, and so also is iritis. Meanwhile, the integument of the face becomes shrunk-en, the mouth is drawn awry, the teeth and gums exposed, and the saliva escapes. Occasionally, the septum of the nose is destroyed, in this variety of elephantiasis.

Anæsthesia is so complete, in all of these parts, that the eye can be touched, and the skin pinched or cut, without being perceived by the patient. Taste is abolished; but hearing frequently remains unchanged. Nutrition suffers, in a high degree, in the parts that are anæsthetic. Thus, the hands and arms present signs that are characteristic of this condition.

Anæsthesia extends to the muscles and other tissues; and, so profound does it become, that patients have been seen to amputate their fingers themselves, and to plunge the stumps in boiling pitch in order to arrest the hemorrhage; and all this without any apparent pain.

The first phalanges of the fingers are forcibly extended backward, while the others are curved forward, in a permanent manner.

A painful, slightly-bluish spot appears on the sole of the foot, preceded by headache and thirst,

and by oppression about the chest; it becomes fluctuating, opens, and gives exit to a great quantity of viscid fluid. Gangrene subsequently occurs of all the soft parts down to the bones. Exfoliation of small fragments of bone also takes place; but it is rare for this to be extensive. Ulcers of this kind seldom heal, although they secrete but little fluid. Whenever the secretion is diminished suddenly, there is general disturbance of the system, such as headache, excessive thirst, fever, cardiac oppression; followed by vomiting, a tearing sensation in the ulcer, and nocturnal pains of a severe and burning character in the whole extremity, with enlargement of the inguinal glands. These symptoms ordinarily diminish in number and intensity, in from two weeks to two months.

At the end of several days or weeks, new phenomena present themselves, such as headache and violent chills, which, in a few hours, deprive the patient of sensibility and motility. Under these circumstances, death takes place in three or four days.

Sometimes, the fingers or toes are thus attacked in succession, and destroyed; while, in the last stage of the disease, there are frequent cramps, and a colliquative diarrhœa.

In absence of the severer symptoms, the appetite is good; or there is, occasionally, pyrosis and acid eructations, with great thirst and dryness of the mouth and throat.

The patients always feel cold; and their temperature is much lower than that of health.

Œdema of the feet and anasarca frequently occur in the last stage, the urine is rich in albumen, and the patient dies comatose.

Atrophy of the skin and muscles is seen after death; while serous fluid, or a lardaceous substance, is found in the subcutaneous cellular tissue, where ulcers existed; and the sheaths of the nerves that traverse the infiltrated tissue are filled with a tough mass of albuminous material. Both the superficial and deep lymphatic glands of the axilla and inguinal region are hypertrophied; but very rarely is there any suppuration.

The lesions found in the central nervous system afford the most satisfactory explanation of the various morbid symptoms and appearances that have just been described. On the posterior portion of the spinal cord, the blood-vessels, and especially the veins, are injected; and a circumscribed albuminous exudation is seen in the arachnoid mem-

brane, in the cervical, dorsal, or lumbar region; often extending to the posterior roots of the spinal nerves. In these places, firm adhesions exist between this membrane and the pia mater. Slight alterations of a similar character are here also seen in the gray matter of the cord. In cases where there is complete anæsthesia, a considerable effusion, of a sero-albuminous nature, is found between the arachnoid and dura mater. The substance of the cord at length acquires the consistence of cartilage; and there is a similar condition of the posterior roots of the nerves in the vertebral canal. These portions of the nerves and the cord itself are both atrophied, in the most marked degree, in the cervical and lumbar regions; while intermediate portions of the cord are apparently healthy. The brain and its membranes are also the seat of similar morbid conditions. The albuminous exudation occurs around the origin of the fifth, sixth, seventh, and eighth pairs of nerves. Where the face has been more or less anæsthetic, a considerable quantity of this exudation is found around the ganglion of Casser; so that the dura mater is often distended, in this region. Other portions of the cerebrum and cerebellum, than those we have already mentioned, are found normal.

The quantity of blood is very much diminished in the vessels of the skin and muscles; while those of the internal organs are congested with thick, dark blood, except the mucous membrane of the mouth, œsophagus, and stomach, which is extremely pale.

Albuminous exudations are found in the pluræ and lungs; there is hypertrophy of the spleen, and often of the liver, which becomes fatty, while the same kind of exudation occurs in patches in the superficial portions of this organ; and the kidneys, affected as in Bright's disease, give rise to effusions from the serous lining of the abdominal cavity. Such are the lesions found in the anæsthetic variety of leprosy, or elephantiasis Græcorum.

The contagious character of elephantiasis Græcorum, or leprosy, rests chiefly on the accounts given in the Mosaic writings; but the hereditary nature of this disease has been amply confirmed by modern investigations. The fact that elephantiasis Græcorum has been acquired by a long residence in countries where it is endemic, does not prove it contagious, in the ordinary sense of the term. Indeed, it differs from all the diseases known to be derived from contact with an animal poison, by the

indefinite duration of the period of its incubation, the absence of a local primitive lesion, and by certain anomalies, which we are about to mention, as regards its transmission from one generation to another.

There is a natural tendency for all taints and hereditary imperfections to disappear very rapidly, or cease to be transmitted, with each remove from the original source. Elephantiasis Græcorum, however, seems to present, in this respect, an anomaly.

Very careful statistics are given by Danielssen and Boeck of this disease as it now prevails in Norway. The Spédalskhed, or Norwegian leprosy, is identical in its character, with the ancient leprosy or elephantiasis Græcorum. We do not hesitate, therefore, to present the statistics of this disease, as the basis for our conclusions with regard to the hereditary nature of leprosy in general. Moreover, these writers have studied this form of elephantiasis as it prevails elsewhere; and their conclusions thus rest on a permanent foundation.

Thus we find that, in one hundred and forty-five cases of the tubercular form of this disease, one hundred and twenty-seven are hereditary; and of sixty-eight cases of the anæsthetic variety, fifty-

eight are hereditary. Only a small number of cases of this disease are of spontaneous origin. Hereditary transmission is more frequent on the maternal side, and in the collateral line than in the direct. Sometimes, several generations escape; but the disease manifests itself with greater intensity in the second and fourth generation than in the first and third; and, if the first generation is spared, it shows itself in all the individuals of the second, and is transmitted by them to the generations following. Frequently the second and third generations escape, and the disease appears in the fourth, and spreads in all directions with new energy.

From the foregoing statements, it is evident that this disease is distinct from all others, in its origin and mode of propagation. It affords us much pleasure, as a confirmation of these views, to quote the following passage from the recent able work of Berkeley Hill:—

"*Leprosy*. — The distinctions between syphilis and this disease are well defined: perhaps the greatest are the non-contagious character of leprosy, its incurability by mercury, and the different nature of the pathological changes produced by it. The tubercles of leprosy resemble the tubercular syphilide very slightly, being often colorless, scattered mainly over

the extremities, soft, not hard, nor of coppery tint. The desquamation and ulceration of leprosy are far more severe than those occurring in syphilis : the slow continuous course of leprosy, the absence of relapses, and the little influence treatment exerts over it, are also useful distinctions. The report of the Royal College of Physicians on leprosy, in 1866, and the report of Messrs. Danielssen and Boeck to the Norwegian government on the same subject, furnish us with ample evidence that syphilis and leprosy have nothing in common." *

The non-contagious character of the Spédalskhed, or Norwegian leprosy, is shown in the following paragraph, which we translate from the report of Danielssen and Boeck : —

We ought also to mention in this place, that the spédalskhed has often been considered a contagious malady ; but among the crowds of those affected with it, which we have observed by the hundreds and daily visited, not a single example exists of the disease being propagated by contagion ; and we have known many married persons, one of whom was affected with the spédalskhed, who have lived many years together and in conjugal relations, without the other having been attacked by the disease. So also at the hospital of St. George, there have lived many healthy persons in company with those affected by the spédalskhed, for more than thirty years, without being affected by this disease. It is, indeed,

* Syphilis and Local Contagious Disorders. Pages 234 and 235. 8vo. London, 1868.

a blessing for our country that the spédalskhed is not contagious ; for, if it had been otherwise than it is, a much greater number of victims would have been sacrificed. From our own observations, we cannot do otherwise than deny the contagion of the spédalskhed.

With a few more extracts from the masterly work of these writers, we will conclude the subject before us. The causes of the disease under consideration are briefly and, as we think, very justly set forth in the following paragraphs, of which we will give a translation : —

The external causes of the spédalskhed ought to be sought for in the physical conditions ; and since the coast, and, above all, the regions around the deep bays (Fjorde) are its proper home, it readily occurs to the mind that the humid and foggy atmosphere of these localities frequently gives birth to it. Often also the cause has been imputed to certain aliments, such as stale fish, the use of sea-fowl ; but this imputation can hardly be sustained : for the inhabitants of the coast, who are chiefly attacked by the disease, generally make use of fresh fish, or that which is much salted ; and when they eat marine birds, a kind of food to which they are but little accustomed, they deprive the bird of its fatty skin. . . .

The patients themselves allege, as constant causes of their affection, the humidity and cold, and the frequent chills with which they are ordinarily seized, either on going into the forests and travelling on foot in the melted snows, or remaining out of doors all day to graze their flocks. Under

these circumstances, they are exposed not only to the continuous influence of the rigorous frosts peculiar to the coasts, but still more to be penetrated by the rain; and quite often it happens in such a conjuncture, that they have to sleep in a place where there is insufficient material for bedding, to an extent that it is very difficult for them to resist the external cold. Being poor, they are besides constrained to wear their wet clothes, and suffer them to dry on them. If we add that the care of the skin is excessively neglected amongst our own peasants, it will be readily admitted that these causes are susceptible of engendering disease where other circumstances are favorable to it.

The poorest portion of the peasantry who inhabit the western coast of our country is above all visited by the *spédalskhed*; and if we consider the manner in which they spend their life, and their means of sustenance, we shall find sufficient reasons for the frequent appearance of the disease. We have said before, that it is, above all, around the deep bays with which our western coast is so rich that the *spédalskhed* prospers; for here exists an air almost always humid, besides very harsh in our long rigorous winters. The huts of our peasants are, in general, built near the border of the sea, in humid locations; they are very small and very low. The windows are small, and cannot ordinarily be opened; very often, the hut forms a single and small chamber, where the whole family lives, where the clothes are dried; we can then see how the air is not renewed, and is thus corrupted. Every one knows, that, under such circumstances, there is an incomplete oxygenation of the blood; and if we actually fix our attention upon the manner of living observed in this country,

it will not be difficult to conceive how the blood, in its combinations, can become abnormal.

Farinaceous food, potatoes, cheese badly prepared, herring and other fish, are almost the sole eatables known amongst these individuals. It is very rarely that they make use of meat in their alimentation; and if they do, they have recourse commonly to the flesh of animals that are badly nourished. Where the provisions are of this quality; where the oxygenation of the blood must necessarily be incomplete; where humidity and cold are almost always permanent, and consequently influence, and generally in a direct manner, the capillary circulation,—it is necessary, without doubt, that the final result must be an abnormal composition of the blood; and as we have demonstrated the presence of a dyscrasia in this fluid, so also do we admit the causes indicated to be those which, in general, occasion the *spédalskhed*.

Treatment.

The treatment of elephantiasis Græcorum, or the leprosy, has hitherto proved quite unsatisfactory; and this, we venture to predict, will be the case as long as it is conducted on empirical principles.

The iodide and the bromide of potassium have been beneficial, in doses of about a grain each, three times a day. Arsenic has apparently only aggravated the internal symptoms. Cod-liver oil has also been used in the treatment of this disease.

Leeches and scarifications of the spinal region have been employed with good results. Much is yet to be learned respecting the exact condition of the spinal cord and its membranes. Where this can be diagnosticated with considerable certainty, we have the means in our power, to combat many of the symptoms of this disease.

Thanks to the admirable investigations of Daniëlszen and Boeck for a precise knowledge of the condition of the spinal cord and its membranes in many of their cases. Thanks, also, to the more recent experiments of Professor Brown-Séquard, for the light they have thrown on the therapeutics of diseases of the cerebro-spinal system. With these aids, the treatment of elephantiasis Græcorum is no longer enshrouded in that mystery which must always be attached to ignorance of the pathology of the disease, and the use of remedies without a knowledge of or regard to their physiological action. More benefit is now to be expected from the intelligent use of the iodide and the bromide of potassium, belladonna, and other therapeutic measures, during the congestive stage of the spinal membranes. Tonics, especially iron and cod-liver oil, and a suitable diet, will do much towards miti-

gating the disease or arresting its progress, if employed in its early stages.

Professor Wilson holds in high estimation the therapeutical properties of the *mudar*, or *asclepias gigantea*, a native plant of Hindostan, and also the *hydrocotyle asiatica*, an oriental plant, in the treatment of leprosy and cutaneous diseases. We shall therefore give a short account of the action of these drugs. The *asclepias gigantea*, the active properties of which reside in the bark of the root,—the dose of which, when dried and powdered, is from three to ten grains, three times a day,—produces a sensation of warmth in the stomach, rapidly pervading the whole system, and causing a prickly or tingling feeling in the skin. Professor Wilson attributes this sensation in the skin to the “renewed circulation through the minute vessels.” The use of this drug seems to be especially indicated in the anæsthetic form of elephantiasis Græcorum.

The *hydrocotyle asiatica* has long been used in the East Indies, in the treatment of skin diseases. The attention of the medical profession was called to the use of the drug, by M. Bolieau, in 1852. This physician succeeded in curing a case of leprosy of long standing by the use of this drug. The knowl-

edge of this cure was communicated by him to M. Lépine, pharmacist of Pondichéry ; who, being recalled to France with the grade of pharmacist of the first class, published some interesting accounts of this drug, and sought to make it popular in Europe, in the treatment of cutaneous diseases.

From his analysis, the plant is found to contain a peculiar substance called *vellarine*, which seems to be its active principle ; together with a yellow oil, a green and brown resin, a saccharine and a non-saccharine extract, and a bitter extract. *Vellarine* is a pale-yellow, thick oil, with a bitter, pungent, persistent taste.

In its physiological action, vellarine resembles the narcotic-acrid poisons. It produces dizziness, a tottering gait, general feebleness, headache, and drowsiness ; and, in many respects, causes toxic symptoms, not unlike those of the deadly hemlock. Great care therefore must be exercised in its administration.

The preparations and doses of the hydrocotyle are given by Professor Wilson.* They consist of a powder of the entire plant, the dose of which is

* Erasmus Wilson. The Student's Book of Cutaneous Medicine and Diseases of the Skin. 8vo. New York, 1865.

from one to six grains daily ; a syrup from the juice, the dose of which for children is from two drachms to two ounces daily ; and a tincture of which the daily dose is from ten to forty drops. He also mentions "an infusion ; an ointment of the green plant ; and baths, containing four pounds of the plant, either green or dried."

M. Guibert * has given a very full account of the *hydrocotyle asiatica*.†

SCLEREMA, OR SCLERODERMIA.

Sclerema, or scleroderma, is a peculiar hardening or induration of the skin subsequent to an infiltrated condition, such as occurs in elephantiasis Arabum. The stage of infiltration is frequently

* Guibert. *Histoire Naturelle et Médicale des Nouveaux Médicaments, introduits dans la Thérapeutique depuis 1830 jusqu'à nos jours.* 8vo. Bruxelles, 1865.

† *Writers on Elephantiasis Græcorum.*

Albrecht, Autenrieth, Bartholin, Bergeron, Boeck, Bonorden, Buckner, De Spina, Danielssen, Gadesden, Gibert, Gislesen, Heer, Heiberg, Heineken, Helvetius, Hempel, Hjaltelin, Hoffmann, Holst, Kinnis, Lawrence, Linnaeus, Luja, Lunde, Munk, Ouseell, Pfefferkorn, Peacock, Ruette, Rasmeyer, Schilling, Simpson, Steinfels, Stolte, Thomasius, Thorstensen, Varandæus, Voug, Wedel, Witthof.

of so mild a character, as to be overlooked; or to be regarded by the patient, and also by the physician, as a simple swelling, or ordinary œdema, with or without redness, or erythema.

Gillette, Arning, Höbner, and Rasmussen have each at different periods collected all of the cases that were then known of this singular and rare affection of the skin. In 1867, Rasmussen published an elaborate article in which he states the number of cases already recorded, including his own, to amount to forty. He has analyzed these cases as far as it was practicable; and, with the masterly investigation of one of his own, has produced a paper on "Sclerodermia and its Relation to Elephantiasis Arabum" which deserves the careful study of those who would become thoroughly acquainted with this interesting subject.

This disease is also considered in Guy's Hospital Reports, under the name of "scleriasis."

Sclerodermia is an advanced stage of elephantiasis Arabum, or only a modification of that disease. The earliest stage of sclerodermia is characterized by a peculiar infiltration of the skin, identical in its nature and mode of production with that which has already been described by us at

considerable length in the pathology of elephantiasis Arabum. We do not, therefore, consider it necessary to repeat what has been said on that subject.

Scleroderma usually begins with a febrile attack, and with pain in the part. Erysipelatous swelling and redness follow these symptoms, and gradually extend until the integument of an entire arm or a large portion of the trunk of the body is thus involved. Copious perspiration and the formation of sudamina are associated with the erysipelatous condition. During this stage of the disease, bullæ are occasionally formed on the extremities, and abscesses in the axillary and other regions. Many or all of these symptoms may subside in a few weeks or months, with or without the induration previously mentioned as characteristic of scleroderma. After a few months, another similar attack occurs; and is followed by the characteristic induration of the skin. The disease not only involves the integument, but the muscles even are transformed into tissue of bony hardness. In some instances, the skin becomes brownish in the sclerematous portions; while those in process of transformation are frequently streaked with red.

MORPHÆA, OR VITILIGO.

Morphæa alba and vitiligo leuce are different names for the same disease. The term "morphæa," however, is preferable, since its characters are more accurately defined than those of vitiligo, under which Celsus has improperly included some of the scaly diseases.

In a recent very able article on morphæa, by Professor Erasmus Wilson, the features of this disease are delineated so distinctly, that it would be impossible to confound it with any other lesion of the skin.

As this disease is only a symptom of elephantiasis Græcorum, it will not be necessary to dwell upon the pathological changes which take place in the skin during its progress. They are in most respects similar to, if not identical with, those of leprosy. The insidious character of the disease, the variety of shapes which it assumes, the loss of sensibility in the skin, and the structural changes that ensue, are all calculated to arrest the attention and ensure the study of the dermatologist. There is no possibility of mistaking morphæa, after a proper attention has been given to its study.

We must confess that a new field in cutaneous pathology, and certainly a most interesting one, — since it carries us back to the rich stores of medical learning treasured up in the sacred writings, — has been opened to us through the earnest labors of Erasmus Wilson, as shown in his elaborate article on "Morphæa, or Vitiligo." *

An analysis of the twenty-five cases of morphæa, reported by this writer, gives us the following results: —

In two cases only was there absence of whiteness: in fifteen, there was absence of tubercles; and in eight, there was no atrophy. Seven cases were attended with excess of pigment in or around the diseased spots. In nearly all of the cases, there was loss of sensibility in the affected skin.

A description of these different varieties, or stages, of morphæa, will be found in the introductory chapter to this volume. The article of Professor Wilson should also be consulted.

* Journal of Cutaneous Medicine and Diseases of the Skin. London, July, 1868.

LIPOMAS OF THE SKIN.

Lipoma is constituted by a new formation of adipose tissue in a limited portion of the integument. The commencement of this change takes place in the elements of the mucous tissue, in which there is hyperplasia, or excessive nutrition, in consequence of some local irritation. This excess in the nutritive process causes the rapid production of fatty cells and of lobules, around and between which the connective tissue and blood-vessels form envelopes and septa that gradually increase in size and thickness.

Traumatism occasionally gives rise to these fatty tumors, and influences their growth.

Lipomas also vary in size, prominence, and situation. Congenital lipomas are usually small, seldom prominent, and are of more frequent occurrence about the eyelids and scalp than elsewhere. Nævus lipomatodes is the name given to a variety of congenital lipoma. There is also a much rarer variety known as "cystic," or "encysted lipoma" of the skin.

Sometimes the skin is raised, or pushed forward

by the lipoma, and diminished in thickness, until the tumor assumes the form of a pendulous mass, or cutaneous polypus. Pendulous lipomas of the skin are generally of a lobulated appearance, and are attached to the integument by a slender pedicle of adipose tissue, which is continuous with the adipose layer of the derma. Occasionally the pedicle is composed entirely of connective tissue.

Lipomas are of slow growth, and indefinite duration. They are seldom painful; nor do they produce much inconvenience, except when they attain unusual dimensions. When situated on the eyelids, scalp, or face, they are somewhat unsightly in appearance, and should be removed.

Treatment.

Lipomas should be removed by excision when they are situated in and beneath the skin. If, however, they form pendulous tumors of small dimensions, or with slender pedicles, recourse may be had to ligation. Nothing is more simple than the treatment of these usually benign new-formations in the skin.*

* *Writers on Lipoma.*

Broca, Follin, Förster, Girard, Gisset, Hébert, Lafaye, Littre, Marjolin, Paget, Pautrier, Phillippeaux, Rokitansky, Saisset, Verneuil, Virchow.

EPITHELIOMAS OF THE SKIN.

Epithelioma, or cancroide of the skin, is so well known, and so thoroughly described by pathologists and writers on surgery, that we have thought it advisable to give only a brief outline of the general features and the pathology of this disease.

For further particulars, the student should consult the works of Paget, Follin, and the elaborate monograph on this subject by Thiersch.

Epithelioma is a pathological new-formation of the epithelial and papillary structures of the skin. It may, however, extend from its primary seat, and involve other than cutaneous or muco-cutaneous tissues ; and thus be removed from the proper field of dermatological investigation.

The under-lip, the face, the prepuce, and scrotum, and the labia majora and minora are the usual situations of epitheliomas. The nature of these growths causes them to assume an exuberant or warty appearance. Ulceration and destruction of the soft tissues are the ultimate results of the extension of this disease.

Chimney-sweep's cancer is usually of epithelial

origin. Melanotic granules are deposited in many of these new-formations in the skin.

Epithelioma is in many instances directly due to local irritation. Such is frequently the cause of chimney-sweep's cancer, and cancer of the lip in persons addicted to the use of the pipe in smoking.

Microscopic examination of these growths gives unmistakable evidence of their epithelial character, from the large size of the cells, their small nuclei, — unlike other forms of cancer, — and the round, oval, or almost polygonal character of the cells themselves. Often also there is a concentric disposition of the tissues around the cells, which is quite peculiar to this pathological new-formation; and which has been most admirably illustrated in the atlas to the monograph already mentioned, of Professor Carl Thiersch.

Treatment.

Excision is the usual mode of treatment of these growths. In some situations, the chloride of zinc will answer the same purpose, if thoroughly applied.*

* *Writers on Epithelioma.*

Bennet, Broca, Cooke, Dupuy, Ecker, Follin, Hannover, Herutaux, Lebert, Ledrau, Mayor, Paget, Thiersch, Verneuil, Virchow.

MELANOMAS OF THE SKIN.

Melanosis of the skin is of two kinds, — true melanosis, and melanosis that occurs in cancerous formations in this organ.

True melanosis is somewhat rare in man ; although it is quite common in white or gray horses. The eye and the skin are the most frequent seats of melanosis ; and it is not uncommon for melanotic cancer to be deposited simultaneously in various parts of the external integument, and also in the internal organs. The lymphatic glands also become infiltrated with melanotic granules.

This form of cutaneous cancer is the one which so often attacks the scrotum in chimney-sweeps ; and is so well known and so easily recognized that it needs only a brief description in this work.

Melanotic granules are occasionally deposited in the vascular nævi ; especially when they assume a malignant character.

Treatment.

Melanomas should be removed by excision as early as possible ; since they are usually of a malignant character.

OSTEOIDS, OR CALCAREOUS DEPOSITS IN AND
UPON THE SKIN.

OSTEOIDS.

A few instances are recorded in which ossific matter has been found in tumors and cicatrices of the skin. These pseudo-bony plates are of rare occurrence in the integument ; and are produced by degeneration of the inflamed cutaneous tissues. It is very unusual, however, to find any thing like perfect bone deposited in the skin.*

Ossification of the skin is therefore rather a matter of curiosity, than of any practical importance, to the dermatologist.

Osteoids, or calcareous deposits, are occasionally found in the sebaceous follicles.

CALCAREOUS COVERING OF THE SKIN.

Calcareous deposits are occasionally, though very rarely, formed upon the skin. In some instances, they appear to have taken place in consequence of a morbid condition of the sudoriferous function.

* Rokitansky, vol. iii. p. 92 ; and Follin, t. ii. p. 54.

Mason Good has described "a reddish-sandy material," that "is occasionally found to concrete on the surface of the body," under the name of "sandy sweat" or "ephidrosis arenosa." He cites various writers who have given instances of this kind of deposit upon the skin.*

A very remarkable case of "Stony covering of the skin" is reported in the "London Lancet."† Scarcely any thing definite is known of the pathology of this morbid condition of the cutaneous covering.

* Good, *The Study of Medicine*, vol. iv. p. 365. 8vo. Boston, 1823.

† *Lancet*, vol. xxvi., 1834.

BRIEF HISTORIES OF HUMAN HORNS.

FROM 1599 TO 1869.

1599. — THUANUS, or Thou, mentions the case of a man, in his History of Gaul, who in 1599 went about the country exhibiting himself, for the purpose of obtaining a livelihood, with a horn growing from the middle of his forehead.*

In 1598, the same man was examined at Paris by Urstitius, in presence of Jacob Feschius and of Echenstenius.†

1609. — ESTOILE, in his "Journal of the Reign of Henry IV. of France" (1589-1609),‡ gives an interesting account of a man named François Trouillu, aged thirty-five, who, when quite young, was so much mortified at the appearance of a horn which began to grow upon his forehead, that he sought the forests, where he spent many years as a charcoal-burner. One day, however, the Marquis of Laverdin, while hunting in these forests, passed near the place where this man was at work with some other peasants. The rustics became alarmed at the sound of the huntsmen, and fled. They were supposed to be robbers,

* Thou, J. A. de, *Histoire Universelle*, 1543-1607. 4to. London, 1734.

† Eloffé, A., *Histoire Naturelle des Cornes*, 12mo. Paris, 1866.

‡ *Registre-journal de Henri IV. et de Louis XIII.*, publié d'après le manuscrit autographe de l'Estoile, etc. See Michaud, 2e série, t. i.

Michaud, J. F., *Nouvelle Collection des Mémoires pour servir à l'Histoire de France, depuis le XIIIe Siècle jusqu'à la Fin du XVIIIe*, Paris, 1851.

and were pursued and taken to the castle of the Marquis. When they entered the court-yard, one of them was observed to keep his head covered. A valet snatched the covering from it, and threw it upon the ground. Thus, the horn of Trouillu could no longer be concealed.

He was afterwards sent to the King, and shown to the whole court. This horn was of large size, and curved backward towards the vertex of the head.*

1638. — "ALDROVANDUS mentions, that a country boy of the age of ten years had a horn growing on the head, of the size of the index; and presented himself in the hospital of Bologna, to have it sawed off, in the year 1639."†

ELOFFE mentions the case of a child, ten years old, that entered the hospital of Bologna, in 1638, with a horn upon the head which was about two inches in length. It was not extirpated from fear of the operation.‡ These cases are evidently identical.

1646. — In 1646, BARTHOLINUS saw an old woman, named Margaret Mainers, of Purmeront in Holland, who had a horn on the right side of her head, above the temporal bone, which was twelve inches long. It resembled that of a goat, completely encircling the temporal bone in a spiral manner, and commencing a new spiral with its point turned towards the vertex of the head. Its base was vascular, and bled when rudely handled.§

1668. — "In the Natural History of Cheshire," says Sir Everard Home, "a woman is mentioned to have lived in the year 1668, who had a tumor, or wen, upon her head for thirty-two years, which afterwards enlarged, and two horns grew out of it: she was then seventy-two years old."||

* Eloffe, pp. 48, 49.

† New-York Medical Repository, p. 88, &c. 8vo. New York, 1820.

‡ Eloffe, p. 50.

§ Eloffe, p. 47.

|| Leigh, C., Natural History of Lancashire, Cheshire, and the Peak of Derbyshire. Folio. Oxford, 1700.

Hunter, vol. iii. p. 634.

1671. — Professor BENNETT gives the following inscription from a medal attached to a human horn, in the Edinburgh University Museum; and also an engraving of the natural size of the specimen: * —

“This horn was cut by Arthur Semple, Chirurgeon, out of the head of Elizabeth Low, being three inches above the right ear, before these witnesses: Andrew Temple, Thomas Burne, George Smith, John Smytone, and James Tweedie, the 14th of May, 1671. It was growing seven years: her age, fifty years.”

The length of this horn is about five inches; and its greatest diameter, which is an inch and a half from its base, is seven-tenths of an inch.

1672. — A man aged seventy years had an ulcer in the hollow of the ham; the matter of which hardened, and formed a kind of horn, a palm in length, two inches thick at its root, and becoming smaller towards its apex. This horn was pulled out at the end of two years; but it soon returned, and became larger than before. †

1672. — A child is said to have been born, in the environs of Turin, with five horns similar to those of a ram.

SCHENKIUS relates the case of a girl, at Palermo, who had horns, similar to those of a calf, not only upon the head, but on all of the articulations of the feet and arms. ‡

1678. — An Irish girl aged fourteen years, of extraordinarily small stature, presented upon the whole surface of the body horny excrescences, which commenced to appear at the age of three years. These excrescences were most abundant around the articulations. At the end of each finger and of each toe, one was seen of the length of the corresponding finger and toe, curved upon itself,

* Bennett, *Clinical Lectures on the Principles and Practice of Medicine*. 8vo. Edinburgh, 1865.

† Cruveilhier, *Anatomie Pathologique*, t. ii. p. 196. 8vo. Paris, 1816.

Journal des Savans. Août, 1672.

‡ Cruveilhier, *Anatomie Pathologique*, t. ii. p. 197.

like the spur of the turkey-cock. There was one on the left arm, which was half an inch in thickness by four inches in length. The skin of the feet, the legs, and the arms, became more and more callous.*

1685. — "MALPIGHI † has described and represented a case of horny productions observed on the palms and soles, with deformity of the nails, in a woman aged thirty." ‡

1685. — ASH has described a person in whom there was a great number of horny productions situated on the thighs; but which were sufficiently soft to become flattened on pressure.§ It is quite possible that these growths were of a fibromatous character.

1686. — "M. PLANQUE, in his 'Nouv. de la République des Lettres,' 1686, has collected various narratives and monographs of human horns and claws, on the toes and fingers, in men, women, and children, which the limits of our pages would not suffice to enumerate." ||

1693. — In 1693, says ELOFFE, a child came into the world, having upon the middle of its forehead a hard, dark-colored tubercle, the germ of a horn.

The same writer says, that another child, born at Transtagan, had a large, hard nodule upon the forehead, which grew after the manner of a horn, and became three inches in length.**

1705. — The following extract is taken from the Minutes of the Royal Society, Feb. 14, 1704-5: †† —

"A letter was read from Chariere, at Barnstaple, concerning

* Transact. Philosoph., ann. 1678.

† De Cornuum Vegetatione, in Mangeti Bibl. Anat., p. 38, folio, Genevæ, 1685.

‡ Ray, Diseases of the Skin, p. 354, note. 4to. Philadelphia, 1845.

§ Philos. Trans., 1685.

Follin, t. ii., p. 41.

|| New-York Medical Repository, 1820.

** Eloffe, p. 50.

†† Hunter, vol. iii. pp. 635-636.

a horn, seven inches long, cut off the second vertebra of the neck of a woman in that neighborhood.

"Dr. Gregory said that one seven inches long, and of a dark-brown color, was cut off from a woman's temple at Edinburgh.

"Dr. Norris said that two horns had been cut off from a woman's head in Cheshire."

The last case is reported, in this monograph, under the date of 1668.

1707. — According to M. ELOFFE, Maria Pasquier, aged forty-two years, consulted Cosnard, surgeon at Saumer, on account of a cutaneous horn which was situated upon her head, over the middle part of the right parietal bone; but she refused to have it extirpated. In the space of three years, it acquired the length of about five and a half inches. It was finally removed with success, in the year 1707.*

"The 'Journal of Trevoux,' for 1707, page 1122, mentions the case of a girl who had a horn on the right parietal bone, and which was successfully extirpated when it had attained the length of five and a half inches."†

"M. Cabrole's eleventh anatomical observation is that of a man called Gay, who bore on his forehead a horn of nine inches."‡

1735. — MERCIER has described a horny growth which was an inch in length, and an inch and a half round its base. It was hard, and of a dusky-black color; and appeared to be composed of fibres, more closely united at the apex than the base, and originating from the fibrous texture of the skin.§

We regard this appearance as somewhat deceptive; since many horns present this fibrous character, and some in a remarkable manner. Nevertheless, a close examination shows them to be of sebaceous origin.

* Eloffe, pp. 50, 51.

† New-York Medical Repository, 1820.

‡ See Lassus.

§ Bulletin de la Société Anatomique de Paris, pp. 114-131. Paris, 1735.

Chelius, vol. iii. p. 406.

1761. — DUMONCEAU published an account of several cases of horny productions.* Two very remarkable cutaneous horns are mentioned by this writer. One of these was nine inches long, and three inches broad at its base. The other was of the same diameter, but two inches longer than the first. Each of these was situated upon the thigh.

1778. — VICQ-D'AZYR observed a cutaneous horn situated upon the face, near the meatus of the ear, in a shoemaker twenty-nine years old. This growth was conoidal in form, of a yellowish color, and several inches in length. Its exact size is not stated.†

1791. — The following cases are condensed from the paper of Sir EVERARD HOME.‡

Mrs. Lonsdale, aged fifty-six, born in Lincolnshire, observed, fourteen years ago, a movable tumor on the left side of the head, two inches above the ear, which grew to the size of a pullet's egg in four or five years, when it burst, and discharged a gritty material for about a week.

From the interior of this tumor, or cyst, a fungous-looking growth appeared, which, at the end of three months, began to assume the appearance of a horn. During the next two years, it attained the length of about five inches, and the circumference of an inch at either extremity, — being a little less in the middle. It was spiral, and of the color of isinglass; and was torn from the head by the patient, on account of the increased violence of the pain.

1791. — HOME reports another horn growing from the lower edge of the depression left by the previous one, about three inches in length, of the diameter of a small goose-quill, and less contorted than the former horn.

* Dumonceau, *Obs. sur des Cornes survenues aux Cuisses de plusieurs Femmes. Jour. de Méd., Chir., et Pharm. de Vandermonde*, t. xiv. p. 145, avec fig., ann. 1761.

† Eloffe, p. 51.

‡ "Observations on Certain Horny Excrescences of the Human Body." — *Works of John Hunter*, vol. iii. pp. 631, 638. 8vo. London, 1837.

A third horn situated near the vertex of the head, is more than an inch in length, and an inch in circumference at the base.

Two or three horns have been torn from this situation by the patient, previous to the present one, which has not yet been molested.

All of these horns grew from similar cysts, which contained a gritty fluid.

1791. — Mrs. Allen of Leicestershire, a middle-aged woman, had an encysted tumor beneath the scalp, which was quite movable, and attained the size of a hen's egg. A few years previous to 1790, it burst, and discharged a fluid for a short time; after which, a horny excrescence made its appearance, and when seen by Sir Everard Home, in November, 1790, "it was about five inches long, and a little more than an inch in circumference at its base." This horn was "a good deal contorted, and the surface very irregular, having a laminated appearance."

1791. — "In the *Ephemerides Academicæ Naturæ Curiosorum*, there are two cases of horns growing from the human body. One of these was a German woman, who had several swellings, or ganglions, upon different parts of her head, from one of which a horn grew. The other was a nobleman, who had a small tumor, about the size of a nut, growing upon the parts covering the two last or lowermost vertebræ of the back. It continued for ten years, without undergoing any apparent change; but afterwards enlarged in size, and a horny excrescence grew out from it." *

1791. — "In the 'History of the Royal Society of Medicine,' there is an account of a woman, ninety-seven years old, who had several tumors on her head, which had been fourteen years in growing to the state they were in at that time: she had also a horn which had originated from a similar tumor. The horn was very movable, being attached to the scalp, without any adhesion to the skull. It was sawn off, but grew again; and,

* Hunter, vol. iii. pp. 633, 634.

although the operation was repeated several times, the horn always returned." *

1791. — "There is a horny excrescence in the British Museum, which is eleven inches long, and two inches and a half in circumference at the base, or thickest part. The following account of this horn I have been favored with by Dr. Gray, taken from the records of the Museum. A woman, named French, who lived near Tenterden, had a tumor, or wen, upon her head, which increased to the size of a walnut; and in the forty-eighth year of her age this horn began to grow, and in four years arrived at its present size." †

1809. — A young girl of the Canton of Berne, says LASSUS, had her legs, back, and arms bristling with horny tubercles, of which some were twice the thickness of the finger in length.

The use of the thermal waters of Neuhaus, in Switzerland, caused them to fall; but they were reproduced, a year afterwards, from want of care and cleanliness.‡

The same writer also mentions the case of a girl, of thirteen or fourteen years, whose whole body was covered with similar excrescences, from four to five inches long, and so soft as to be flattened by compression. The skin of the feet, legs, and arms was hard, callous, and daily became harder. The result of the case is not stated.§

M. Lassus gives the following case from Cabrol.|| The subject of this observation was a man who had a horn six inches in length, curved, having a broad base, and terminating in a point. It was situated on the left temporal region, at the roots of the hair. It was sawed off as near as possible to the integu-

* Histoire de la Société Royale de Médecine, p. 316, 1776; and Hunter, vol. iii. p. 634.

† Hunter, vol. iii. p. 634.

‡ Lassus, Pathologie Chirurgicale, t. i. pp. 560-565. Paris, 1809. Fabricius Hildanus, cent. 2, obs. 25.

§ Jour. de Méd., t. xiv. p. 145, ann. 1761.

|| Cabrol, Obs. Anat., xi.; Lassus, t. i. p. 563.

ments. The effusion of blood necessitated the application of the actual cautery. After the fall of the eschar, the ulcer cicatrized, and the cure was complete.

1811. — "But perhaps one of the most remarkable and best authenticated cases of this sort on record occurred in the practice of Dr. William Roots, of Kingston-upon-Thames, who, in February, 1811, amputated a horny excrescence from the head of a man, between fifty and sixty years of age, exactly resembling a ram's horn; a drawing of which, in its growing state, as well as the horn itself, was presented by him to the collection of Sir Astley Cooper. The account given of this case is, that John Kennedy, in the year 1796, had a tumor growing from the superior part of the occiput, which was taken off with the knife by the doctor's father, in about three years from its commencement. Soon after its removal, a horny substance made its appearance on the same place, which continued growing for four years, until it accidentally fell off in a most unexampled manner; leaving the surface of the part from which it grew perfectly smooth, resembling the superficies of the stag's head when his horns have recently dropped. In a short time afterwards, a new horny sprout shot forth, which, as it grew, took on the exact form and figure of a ram's horn. It continued to increase for a period of seven years, without any disposition to fall off, to the great annoyance of the poor man. He consented at length to its removal, in the performance of which, from the parts underneath being vascular, a considerable hemorrhage ensued." *

1813. — In 1813, a man visited the Museum at Philadelphia, who had a horn growing over the sternum, four inches in length.†

1816. — The following four cases are translated by the author from Cruveilhier's work on "Pathological Anatomy," where the date of their occurrence is not given:‡ —

* Worthington, On Horny Excrescences, *Lancet*, 1836; and Eve, pp. 734.

† New-York Medical Repository, 1820.

‡ Cruveilhier, *Essai sur l'Anatomie Pathologique*. 8vo. Paris, 1816

AQUAPENDENTE knew at Padua a noble, who bore upon his forehead a small, very hard horn, and who had a son who ruminated. Aquapendente attributes the rumination of the son to the affinity which the father presented with horned animal.

A president of the Sessions of the city of Byon, in the Duchy of Bordeaux, who had been troubled by an obstinate quarter fever, had formed, near the articulations of the last false-ribs with the vertebræ, a horny production which resembled the horn of a young stag, and which would have acquired the length of a half foot if it had not been excised at the thickness of the finger from its root, where it began to be exquisitely sensitive.

The following case was reported to the Société Royale de Médecine by M. CHAMSERU: The patient, a woman aged forty-eight years, received a burn on the occipital region at the age of four; and which had been the seat of ulceration and incrustation ever since. At her critical epoch, there formed, in place of the crust, a cylindrical excrescence, brownish, an inch and a half in height, and from eight to ten lines broad at its base. . . .

The patient died in marasmus, at the age of fifty-one years. Her horn was three inches in its mean diameter, nine inches in circumference at the base, by four inches and a half in height.

Cruveilhier has observed a horn on a cicatrix situated on the front of the tibia. The horny lamina was an inch long by half an inch in thickness.

1820. — In the "Medical Repository," 1820, an account is given of a man named Paul Rodriguez, who had a horn growing from the integument of the anterior portion of the right side of the head. This horn measured over three inches in diameter at its base, and was divided into three branches, at about an inch from its insertion. These were of unequal length, and grew forward and downward upon the cheek.

1820. — Dr. CHATARD, of Baltimore, saw an old woman in that city, previous to 1820, who had a horn on her nose of more than an inch in length.*

* New-York Medical Repository, 1820.

1820.—Mr. SCUDDER, proprietor of the New-York Museum, had in his possession, previous to 1820, a horn which was removed from the head of an old woman after death. It was situated over the mastoid process, and was seven inches long. The horn had previously been sawed off, and this was a second growth from the same base.*

1827.—In the "London Lancet" for 1827, an account is given by Dr. PALMER, of Arbroath, of a cutaneous horn which was removed by him from the integument over the spinal process of the second cervical vertebra, in a woman aged sixty years. This horn measured nine inches in length and two and a half in circumference. The tip had been removed by the patient several times before the horn had attained much size. This horny growth had been first noticed about ten years previous to its removal by Dr. Palmer.

"It was found to originate almost entirely from the cuticle, and had very little connection with the cutis vera, which was, however, a little thickened, and presented a more vascular appearance than in its natural condition. The excrescence had the structure and form of a ram's horn. No reproduction of the disease took place subsequent to its complete removal." †

1830.—In the report of a committee on the subject of human horns to the French Academy of Medicine, July, 1830, a case is cited from Bonnet of a girl who, at three years of age, had horns upon nearly every part of her body. At thirteen, she was quite covered with them. Some of these fell off, and others grew in their places. There was a horn at the end of each finger, three inches in length. Some of these horns were twisted or spiral.‡

1835.—BRESCHET, in his article on horny productions, gives an account of an old woman who had been a patient in one of the Paris hospitals for a long time; and who had an enormous

* New-York Medical Repository, 1820. Eloffé, p. 51.

† See also Eve's Remarkable Cases in Surgery, p. 740.

‡ Eve, p. 737.

horny growth upon her forehead.* The length of this horn was about five inches, and its base covered a large portion of the forehead, causing the integument to be pushed downwards in such a manner that the eyes were nearly closed. The horn was of a conical form, and much denser towards the apex than at the base. This woman died in the Hôpital Saint-Louis.

Cloquet has published an account of the case.

1835. — RAYER mentions a patient by the name of Rose Davène, aged sixty-four, who consulted him on account of a cutaneous horn situated upon the inner surface of the thigh, and measuring more than two inches in length. It was somewhat yellow in color, and appeared to have originated in consequence of previous inflammation of this portion of the integument.†

1835. — A case is reported from CALDINI, of a woman who had several encysted tumors upon the head, in consequence of a contusion. After the spontaneous rupture of one of these cysts, and the discharge of a liquid matter, a tumor of the nature of a horn grew from its interior. It was removed several times by excision, but returned again.‡

1835. — Breschet cites a case from CALDINI of a horn which grew upon the glans penis.

EBERS has seen a similar case.

BRESCHET himself saw a case of this kind.§

1835. — CORRADORI mentions the case of a woman, aged seventy, who had two horny growths upon the thighs. They were many times excised, but returned again. ||

1835. — RIGAL has seen a cutaneous horn implanted near the sternum. The same observer has noticed a horn upon the region of the coccyx, near its inferior portion.**

* Dictionnaire de Médecine, t. ix. Paris, 1835.

† Rayer, p. 355.

‡ Dict. de Méd., t. ix. p. 115. Paris, 1835.

§ Dict. de Méd., t. ix. p. 115. Paris, 1835.

|| Dictionnaire de Médecine, t. ix. p. 115. Paris, 1835.

** Follin, t. ii. p. 40.

"MORGAGNI met with a horn on the prepuce, which followed the degeneration of a wart." *

1835. — BECLARD has presented to the collection of the *École de Médecine*, a specimen of horny growths, on the hands and feet of an old woman. Those on the palms and soles are of much greater length than those on the dorsal surfaces. Five or six of these productions were from eight to ten inches in length, and of the thickness of the finger.†

1835. — "FABRICIUS HILDANUS tells us," says Rayer, in speaking of multiple horny growths, "that a young female, having made use of evacuants, emmenagogues, and the sulphureo-aluminous thermal waters of Neuham, was cured for a time of these horny productions with which her skin was covered." ‡

1835. — There is an account, in Rayer, of an Italian peasant, named Louise Marino, aged fifty-four, who had a cutaneous horn which grew at the root of her nose.§ In less than a year, it was an inch in length, and of the diameter of an ordinary quill. It was curved, and pointed at its free extremity. In color, it was grayish-brown. This horn was excised by Dr. PORTAL.

1836. — "A woman, nearly seventy years of age, residing in the parish of Bushmere, five miles distant from Lowetoft, perceived, as far back as thirty years ago, a hard substance, like horn, growing from the integuments of the head, just over the parietal bone, to the right of the sagittal suture. It continued progressively increasing, until it arched over the os frontis, presenting a very singular appearance, and producing no other inconvenience than that of becoming sometimes entangled in the hair. Several medical gentlemen had, during its growth, visited this woman, and proposed its excision; but a great natural aversion existed in her mind to any operation. She at last, however,

* Rayer, p. 354, note.

† Rayer, p. 355.

‡ Lassus, *Pathologie Chirurgicale*, t. i. pp. 560-565. Paris, 1809.

§ Rayer, p. 354, note.

consented, through the entreaties of her husband and friends. Its removal was accomplished by Mr. Primrose, of Wrentham, and myself, by means of a metacarpal saw. The excrescence was easily divided, scarcely producing any pain. A minute quantity of blood exuded from the divided surfaces, sufficient to demonstrate a vascular organization, the vessels entering from the scalp. It measured, when detached, eight inches and a half, approximating to the figure of a ram's horn. Its texture was hard and laminated, and it was of an albumino-gelatinous quality. A fragment, when submitted to the action of heat, eliminated the same strong odor as that produced by the same agency upon horn. Henry Collins, Esq., who has been long engaged in the pursuit of comparative anatomy, kindly assisted me in the analysis, and perfectly coincided with me in ascribing to it all those physical qualities which are usually met with in substances of a horny nature." *

1836. — "Dr. PENZA, of Naples, relates the case of a man with a horny excrescence over the uppermost portion of the right parietal bone. It was of the size of a goat's horn, being about six inches in length, and of a spiral form; the person was seventy-five years of age. Its substance was very hard, and its nature rather oily. It was of a yellow color, and fibrous texture. The extirpation of it was performed without difficulty. Six weeks after the operation, two small horns began to sprout from the cicatrix, but afterwards spontaneously disappeared." †

1840. — "The scrotum is sometimes the situation of tumors; and I remember one case in St. Bartholomew's, where an excrescence in the shape of a horn, and of a horny consistence, was formed on it." ‡

1843. — Patient of HENRY JAMES JOHNSON, Esq., St. George's Hospital.

* Worthington, London Lancet, 1836; and Eve, pp. 734, 735.

† Worthington, London Lancet, 1836; and Eve, p. 734.

‡ Cooper, Samuel, First Lines of the Theory and Practice of Surgery. 8vo. London, 1840, p. 598.

"Frederick M., aged twenty-three, chimney-sweeper, admitted April 12, 1843, has a sharp horny projection growing from the front of the scrotum, on the right side of the raphé. The base is rather tender on pressure. He first perceived it seven months ago. It was then a small flattened tumor, with a circular base, with some horny matter on the surface, of a black color, which he was in the habit of picking out, like a corn; has increased much in size within the last two months. On the left side, one, commencing, resembles a small sebaceous tumor, with black horny matter on the surface, just beginning to be formed; first perceived it a week ago."*

Both of these horny growths were excised. They consisted of inspissated sebaceous matter. The wounds healed; but in a few months the cicatrix of the larger horn became the seat of chimney-sweeper's cancer. The microscopic examinations were made by Mr. Toynbee.

Mr. TOYNBEE said he had removed a much larger horn than either of these from the abdomen of a man, in the region of the umbilicus.

1845. — "Isobel Wilson, aged seventy-seven, of a feeble habit, ill fed, and inattentive to cleanliness, has had a scaly eruption on the anterior and inner parts of both legs for many years. In the winter of 1838, while climbing at her peat-stack, the support under her gave way; and, falling, she sustained a slight wound of the left leg, over the inner aspect of the tibia, about its middle. This bled rather profusely, and occasioned some pain; but, according to the patient's statement, corroborated by her daughter, it healed completely in a week or ten days. A few months after, a pointed wart-like body began to grow from the situation of the now cicatrized wound, gradually increasing, until, when I saw it the year following, it had attained the size of a field-bean. At this time, it had a dingy-white color, with the exception of the apex, which was brown, and of the consistence of horn. Its connections appeared to be entirely superfi-

* *Lancet*, vol. iii. pp. 89, 90. London, 1844.

cial, as it could be twisted freely about, or bent so that its unattached extremity touched the limb in any direction. The patient, however, expressing herself averse to its being interfered with, and as it caused little, if any, inconvenience, I did not urge its removal. Some weeks after, as I was informed, it dropped off of its own accord. . . .

"The verrucous body, on falling off, exposed a small granulating sore, on which another excrescence was gradually formed. Within three years it attained a considerable size, being four inches in length, and seven and a half lines in its greatest diameter at the base.

"It is of much harder texture than the first growth, and bears a remarkable resemblance to the horns of some of the lower animals, in having a transversely laminated structure, being bent spirally throughout, and twisted on itself at its apex. This second formation, like the other, became spontaneously separated from the limb, with which it was connected only by the cuticle around its base; the concave surface within having been occupied by a soft fibrous cushion, growing from a superficial ulcer above described, but wholly unattached to the horn. For, when the disunion of the circumference had advanced a certain way, the excrescence could be lifted off the structure underneath, and such an inspection obtained as to render it evident that the two surfaces had been simply in apposition. Indeed, the latter, in its progress, had obviously pushed off the horn."* . . .

1847. — "A man, eighty-four years of age, had a horn-like prominence on the right temple near the eye, which originated, eighteen months previously, from a wart. Its length was three inches, and its thickness at the base an inch and a half. The whole was projected in a straight direction from the head, and appeared curved only at the point anteriorly. The individual experienced no inconvenience whatever, until some quack under-

* Case of Horny Excrescence from the Leg of an Old Woman. By Robert Turner, M.D., &c., Keith. In the Lond. and Edinb. Monthly Journal of Medical Science, pp. 361, 362, May, 1845.

took to remove the excrescence by a caustic ointment, the employment of which gave rise to a malignant ulceration, followed, in four months, by death." *

1850. — In the "London Lancet" for 1850, C. A. DALBY reports a case which he saw in 1847. The patient was a female aged seventy: and the horn grew from the occipital region. It was six inches in length, and two inches and a half in circumference. The growth was of three years' duration. This horn afterwards became detached spontaneously, and a new growth succeeded it, which attained about half the size of the former, when it also fell off.†

1851. — SOUBERBIELLE, at Paris, removed a horn from the forehead of a woman known as the Widow Dimanche, aged eighty-four years, and living in Rue de Bercy. A figure of this specimen in wax is in the possession of M. Vasseur, naturalist, Rue de l'École de Médecine; and a fac-simile has been secured by Dr. J. B. S. Jackson, for the Anatomical Museum of Harvard University.

This horn is streaked longitudinally, is of a dark-brown color, above an inch in diameter, and several inches in length; being curved downwards, so that its apex reaches the chin. It was six years in growing.‡

1851. — "M. GRISOLLE presented, some time ago, to the Academy of Medicine of Paris, a horn which had grown on the left parietal bone of an old woman. It weighed three drachms, was five inches long, ended spirally, and equalled the little finger in thickness. The patient was seventy years old, and very fat; at forty the horn began to grow, but she used to pull it off when it had reached the length of one inch. Fifteen or sixteen of these growths thus followed each other; the present one took

* Lond. and Edinb. Monthly Journal of Medical Science, p. 782, April, 1847.

Casper's Wochenschrift, 26th December, 1846.

† See Eve, p. 735.

‡ Eve, p. 736.

three years to attain its size; and the patient submitted to its removal by the ligature, from which operation she had erysipelas, and died. The autopsy proved that the horn had no connection with the bone; it was attached to the dermis by a kind of fibrous band. Around this, five or six sebaceous follicles were seen, of the size of a pin's head; but the most minute examination by Messrs. Grisolle and Lebert could not elicit that the growth sprang from a sebaceous follicle, as might have been suspected, according to the opinions of Sir Everard Home, and Sir Astley Cooper."*

1851. — Dr. SANDS, of Cold Spring, State of New York, in 1851 removed a horn from the occiput of a woman, aged fifty years. It measured six inches and three-fourths in length, and three inches in circumference, at the base. It curved backwards, and the extremity was sulcated. This horn was several years in attaining these dimensions.†

1852. — DENUCÉ reports the case of a woman, eighty years old, who had a cutaneous horn on the superior and internal portion of the left arm.‡ This growth was excised close to the skin; and was followed by an epithelioma, which ulcerated, and invaded the whole surface of the arm, and then the axilla, finally causing the death of the patient.

1854. — Dr. PORCHER, of Charleston, S.C., in 1854 removed a horn from the right side of the head of a negro woman, aged fifty-two, which measured seven inches on its outer or longest curve, and four inches on its inner curve. Its greatest diameter was two and three-fourths inches. This horn was about eight years growing, and was convoluted, twisted, and bent forward in the form of a curve, until it began to press upon the skin near the angle of the eye. At its junction with the integument, it was of the consistence of cartilage.§

* Lancet, 1851; and Eve, pp. 735, 736.

† Eve, p. 733.

‡ Bulletin de la Société Anatomique, p. 110, 1852.

Follin, Path. Externe, t. ii. p. 43.

§ See Eve, p. 732, &c.

1855.—At the meeting of the Pathological Society of London, May 1, 1855, Mr. GRAY exhibited a horn removed from the lower lip of a man seventy years of age.

Its history is as follows: "It was situated a little to one side of the median line. It existed for several years without making any progress, but had latterly grown fast. At the time of its removal, there was scarcely any bleeding; but a few hours afterwards most alarming hemorrhage came on, which was with great difficulty restrained. . . . The tumor was rather more than an inch in length, and an inch and a half in circumference at its broadest part. Its consistence was dense and firm, and, to all external appearance, like horn; its color, of a light brownish tinge externally. Its shape was not unlike that of the claw of an animal, being slightly curved, narrow, and pointed at its distal extremity; broad and thick at its attached portion. The base of the growth was imbedded in a thick capsule, formed of condensed muscular fibre and areola tissue. On making a longitudinal section from the base to the apex, the tumor presented a striated appearance; the striæ running in the long axis of the growth. It also appeared from that section to consist of two parts, an upper and lower; the lower portion was of an opaque white color, and consisted of that part contained in the capsule at the base of the tumor, which was mentioned before. It consisted of a mass of epithelial scales, arranged in longitudinal lamellæ, giving to the tumor the striated appearance which it presented on a section. The epithelium was of the spheroidal form, each particle containing a distinct nucleus. The upper portion of the tumor was of a deep brownish tinge, but also distinctly striated. This part had evidently been the part of growth exposed to the action of the air; it was also firmer and more condensed in texture. Their sections, examined by the microscope, presented the appearance of a homogeneous granular membrane, faintly striated in texture."*

1855.—Dr. A. D. SINCLAIR saw an aged woman at the Bridge-

* *Lancet*, vol. ii. p. 107. London, 1855.

water Almshouse, in 1855, who had a horn on the radial border of the hand, which measured three-fourths of an inch in length and one-fourth of an inch in diameter at its base. Its color was brownish-black.

1856. — "CASE 1. A man, aged fifty-three, was admitted to Guy's, under the care of Mr. Cock, having a horny growth about an inch long, and resembling a bird's beak, growing from the lower lip. It had existed for seven years. Excision by the curved shaped incision was performed, and the wound quickly healed. It appeared to be of perfectly innocent nature.

"CASE 2. St. Bartholomew's: Mr. Stanley. A chimney sweep, aged twenty, was admitted on account of a horny growth from the scrotum, nearly two inches long. Its base was epithelial cancer. The whole was crushed off by means of the *écraseur*. The wound healed slowly." *

1857. — At a meeting of the Boston Society for Medical Improvement, Feb. 9, 1857, "Dr. H. J. BIGELOW showed a specimen of horn removed at the Hospital, by Dr. Cabot. The patient, aged forty-two, married, had always had a large mole where the tumor was situated, at the top of the back, half an inch to the right of the spinal column. She had never had any extraordinary feeling in it until about a year ago. It then began to become sore, when she lay on her back, or when her dress bore upon it. The bunch then commenced to grow, until it had risen a little above the level of the surrounding tissues. It was hard, about the size of a filbert, and immovable on account of its firm deep attachments. She had recently had acute, lancinating pains about the growth. Her general health had been good, nor was there any cancerous disease in the family.

"The tumor was enclosed above in a sort of sac, which enveloped its horny tip. This surmounted a mass of concentric epithelial layers, arranged like a pile of cups, corresponding to the matrix of a nail. The length of the tissue constituting the matrix was three-fourths of an inch; that of the horn, on

* Medical Times and Gazette, p. 470. London, November, 1856.

fourth of an inch; the whole being of the diameter of a swan's quill and buried in the fat. The horn was about to perforate the cutis by ulceration," *

1857. — ERICHSEN mentions the case of a woman, who applied to him on account of a horn which was growing from the upper-lip, and which was about an inch and a half long.†

1857. — Mr. HUTCHINSON, at the Metropolitan Free Hospital, removed a horn by excision from the lower lip, near the angle of the mouth, in a man aged fifty-eight. It was about the size of a common lead-pencil, and over an inch in length. It originated in a warty growth that had existed over twenty years; and the base had lately become swollen and painful, and presented the aspect of epithelial cancer.‡

1860. — At a meeting of the Pathological Society of London, October, 1860, "Mr. DURHAM exhibited a specimen of horns from the human subject. One of them was removed last week by Mr. Cock, and was the product of twenty-five years' growth. Mr. Durham also produced several interesting specimens of similar growths from the Museum of Guy's Hospital, and illustrated the subject at some length." §

1862. — Cases treated in the Royal Infirmary of Edinburgh: —

"R. S., æt. seventy-nine, admitted Feb. 5, 1862, with a horn growing from the back of his right hand. The patient had also an epithelioma on the lower lip, at its left angle, which has existed nine months. The horn commenced to form fifteen years ago, on the surface of a small sore. Since then it has been constantly growing; but the patient has always pared it down, when it became more than an inch or so in length.

"On admission, there was a horn an inch and a quarter long, and one inch in diameter at its base, springing from a portion

* Extracts from the Records of the Boston Society for Medical Improvement. 8vo. Boston, 1859.

† Science and Art of Surgery. 8vo. London, 1857.

‡ Lancet, vol. i. p. 380. London, 1857.

§ Lancet, vol. ii. p. 412. London, 1860.

of the hypertrophied skin over the metacarpal bone of the forefinger.

"6th. — Mr. SYME cut off the horn, together with the hypertrophied skin at its base. The cancer of the lip was also removed at the same time. A section being made through the entire length of the growth, including the skin from which it grew, small portions of this section were placed under the microscope. The base presented the ordinary appearance of the epithelial layer of the skin; the epithelial cells becoming compressed as they approached the horny growth, and gradually merging into the structure of the horn.

"18th. — The lip is quite healed, and the cicatrix made by the removal of the horn on the hand is contracting.

"24th. — Dismissed cured."

REMARKS. — "During the last winter session, there was a patient, a chimney-sweep, in these wards, who had a horn two and a half inches in length, removed from an epithelial cancer of the scrotum. It had been growing for six months, was curled in form, hollow in its centre, and exactly resembled a sheep's horn." *

1862. — The following interesting letter, to the editor of "The Lancet," is inserted in full: † —

SIR, — Through the medium of your journal, it may perhaps not be uninteresting to relate a few details relative to a curious case, which has of late been comparatively rare in the medical field; viz., horny excrescences growing from the whole of the cranium.

The case I allude to is as follows: Having been asked some little time ago, by the late union surgeon here, to visit the case in question, I did so, and was certainly much struck with her appearance generally. The occiput to the os frontis was literally covered with tortuous horny excrescences, varying from half an inch to three inches in length, thereby causing great and constant inconvenience to the patient, preventing her, of course, from enjoying comfortably her night's rest, &c.

My main objects in introducing this particular case are these: First, to find if others have met with similar cases; and, secondly, to elicit any mode of treatment, as opportunities of meeting such cases are few, and

* Edinburgh Medical Journal, pp. 903, 904. 1862.

† Lancet, vol. ii. p. 246. London, 1862.

as I find there is great difficulty in effecting a radical cure. I have tried the ordinary means in vogue — viz., lopping off the excrescences, and then freely cauterizing — without the slightest benefit; suppuration setting in rapidly, in from two to four days.

Perhaps some of your numerous readers may be willing to offer some observations on this important subject.

I remain, sir, yours, &c.,

J. MITCHELL, L.R.C.S.E.

LANCASTER, August, 1862.

To the Editor of "The Lancet." *

SIR, — A few months ago I removed, from the back of the hand of a female patient, a large horny growth, and afterwards freely cauterized the space it had occupied. In the course of a very short time, however, the woman re-appeared; and this time the size of the excrescence was much larger than before. It was removed as in the first instance, nitric acid freely applied, and for some time afterwards painted with strong tincture of iodine. From that time to the present, there has been no sign of its return.

I remain, sir, yours, &c.,

C. L. EDWARDES, M.R.C.S.E.

RUGELEY, August, 1862.

1862. — The letter already quoted, elicited the following answer: —

To the Editor of "The Lancet." †

SIR, — If your correspondent, Mr. Mitchell, will, after "lopping off" the excrescences close to the base, touch them freely with caustic potass, he may probably find it successful. I have proved its value in a similar case. It is more than probable, on formation of the eschar, he will find at the root a small cyst, or sac.

Yours, &c.,

MEDICUS.

CORK, September, 1862.

1862. — At the meeting of the Pathological Society of London, Oct. 21, 1862, "Mr. CANTON exhibited a horn, removed from the upper eyelid of an old woman.

"The patient was a woman seventy years of age, from whom, a few days ago, he had removed the growth exhibited. It began four years ago; it commenced in a wart, and gradually increased. There were no other growths anywhere else, and there was nothing to lead to a suspicion of cancer.

* *Lancet*, vol. ii. p. 274. London, 1862.

† *Lancet*, vol. ii. p. 302. London, 1862.

"The President (Dr. Copland) said, that the position was a very singular one. The pathologists of the sixteenth century considered that in persons who had horns of this kind, there were to be traced indications of their likeness to the lower animals in other respects." *

1862.—Extracts from the Records of the Boston Society for Medical Improvement: † —

"Dr. H. J. Bigelow showed the specimen, which was removed from the patient by Dr. Clark, and gave the following description of it:—

"The growth is a blunt cone, two inches long, by an inch and a half at the base, and split into two parts, with a third smaller division at the root. It is roughly striated, lengthwise, hard at the point, and softer at its insertion, emitting also the factor of epidermic secretion.

"On section, a limited, epidermic, columnar structure is seen sprouting from a dense fibrous tissue beneath the base. The structure is irregular, and broken at intervals, but is harder and drier as it approaches the surface and summit. Microscopically, the whole is a mass of epidermic scales and nuclei, originally arranged in papillary form, of the probable growth of which the following will give an idea. A central body of nuclei in each papilla grows out from the skin, its top and sides developed into concentric scales, by which it is, as it were, shingled and slated. This outer layer is raised by another beneath, which, in its turn, is elevated by a third; so that the section of a papilla resembles a pile of inverted cups, of which the centre is occupied by nuclei and the sides by more developed scales.

"Drying as it grows, the hardened extremity of this so-called 'horn' consists almost wholly of epidermic plates, while the interior of its soft base is filled with papillary growth containing nuclei. At the line of insertion of the whole mass, nuclei

* Medical Times and Gazette, p. 450. London, October, 1862.

† Boston Medical and Surgical Journal, pp. 234, 235. 8vo. Boston, 1862

are abundant, entangled in fibrous tissue. This epidermic structure has some affinity to that of horn; but in its papillæ and columnar arrangement, more resembles epithelioid cancer, without the globes characteristic of that growth."

1863. — "Dr. JOHN STRUTHERS exhibited a specimen of a human horn, which had been presented to him by his former pupil, Dr. P. W. Stark, of the Lancaster Asylum. It was taken from a female aged about seventy. It grew among the hair, a little behind the forehead. Several others were growing at the same time from one to two inches apart. It was almost detached, and was easily pulled off. It was of a rounded form; $3\frac{1}{2}$ inches in length. The diameter near the base was $\frac{3}{16}$ of an inch; at the middle, $\frac{3}{12}$; and towards the point, $\frac{2}{16}$. It tapered gradually, though not uniformly, and ended in a blunt point. It had a double curve, giving it a spiral form. When laid on the table, the first two inches lay flat, forming a considerable curve, say inwards; while the distal third rose forwards from the table, curving backwards towards the root, and a little outwards. The point rose to nearly an inch from the table, and was an inch and three-fourths from the base, in direct distance. The surface of the horn was irregular, rough, hard, and marked with longitudinal streaks. It was of a light-brown color, marked with white patches. On fracture, the interior presented a more uniform light-brown color." *

1864. — "Nov. 14th. — *Horn of Lower Lip*. — Dr. Hodges showed the specimen. The patient, a man aged thirty-one, entered the Massachusetts General Hospital, October 29th. Nine years ago, a horn commenced growing on the prolabium of his lower lip. Three years after having reached its present size, it was removed by operation, of which an obvious scar remains. It, however, soon re-appeared, and had steadily grown till it was now an inch high, and one-fourth of an inch in diameter; and by its side was a smaller horn, of about one-third the height of the larger one. Removed by a V-shaped incision. The lip

* Edinburgh Medical Journal, p. 860. 1863.

around it was healthy. Patient had an aunt who had a horn of the side, which was removed by operation.*

This case seems to add confirmation to the relation between horns and epithelial cancer, which has been pointed out by Paget (p. 568).*

1865. — Mr. HOLMES exhibited to the Pathological Society a specimen of horny growth removed from the face by Mr. Charles Roberts, of York, with the following account of the case by that gentleman: —

“The horny growth which I enclose was removed by me from the face of an old woman, about seventy-five years of age, the wife of a blacksmith, residing in a small agricultural village a few miles from York. It was growing from the skin, immediately over the edge of the lower jaw on the left side, at a point corresponding to the angle of the mouth. The patient states, that, about three years ago, a small wart (which she had had all her life) became irritable, and, from frequent scratching, bled freely. As the irritation subsided, a horn grew, and slowly increased in size for two years, when she broke it ‘short off.’ The enclosed horn has been the produce of the last twelve months, and has increased in diameter and length much more rapidly during the last three months. The soft bulbous base was very vascular and painful; and the horn, by hanging down into the neck and catching the dress, was a source of great pain and inconvenience to the patient. In removing it, it was only necessary to divide the skin, as the tumor had no connection with the deeper tissues.”†

1865. — In the Museum of DUPUYTREN there is a specimen of a horn which was developed on the back of the hand of an old woman, in the place of a canceroid disease which had been many times cauterized.‡

* Transactions of the Boston Society for Medical Improvement, vol. v., No. 3, p. 152, 8vo, Boston, 1866; and Boston Med. and Surg. Jour., Dec. 15, 1864, p. 400.

† Medical Times and Gazette, p. 375. London, 1865.

‡ Follin, t. ii. p. 43.

1865. — Follin cites a case from RAYER, of a man aged forty, who for many years had a horny growth on the left cheek. The portion of integument from which it grew became engorged, thickened, scirrhus, and the seat of lancinating pains. Rayer removed the horn by excision, and a portion of the integument on which it rested. In three months it returned. It was again removed, but with the same result.*

1865. — M. VASSEUR has, in his collection at Paris, a figure in wax of the head of a man, aged forty, who had a cutaneous horn three inches in length, situated over the right malar bone.†

1865. — In 1865, Dr. JOUSSAUME brought to the cabinet of M. Eloffe, a child five years old, having a horny growth on the free border of the superior lid of the right eye.‡ This horn was about six lines in length, and two lines in diameter, and in the shape of a truncated cone, or of a thimble. It was removed by a moderate amount of traction; and, at the place of attachment, the papillæ of the skin were elongated and vascular. This place was cauterized five times with the nitrate of silver, before a cure was obtained.

1866. — In 1866, the child just mentioned was again presented to M. ELOFFE, having two horny growths upon the free border of the superior lid of the left eye. These were side by side, and similar in appearance to the one already described.§

1866. — The following account of a "Human Horn (Cornu Cutaneum of Rokitansky)," was read before the Boston Society for Medical Improvement, by SILAS DURKEE, M.D., and communicated for the "Boston Medical and Surgical Journal," Feb. 18, 1866.

"On the 24th of December, 1864, Dr. Hoffendahl, of this city, gave me a polite invitation to see a patient of his who has had a horny excrescence growing on the right forehead for the past six years. The patient is a female, ninety-two years of age,

* Follin, t. ii. p. 43.

† Eloffe, p. 52.

‡ Eloffe, pp. 51, 52.

§ Eloffe, p. 52.

and resides in Charlestown. She still retains her mental faculties quite well, and was able to answer with apparent accuracy my inquiries relative to her case. She stated, in substance, that the horny growth commenced as a small hard pimple, rising just above the adjacent skin, and situated about an inch above the outer portion of the eyebrow. For three or four years it increased very gradually. It has never occasioned much inconvenience, unless when accidentally struck, or brought in contact with the clothing. During the last twelve or fifteen months previously to my seeing it, it grew more rapidly than it had done before.

“The old lady was gratified that we had called to see ‘her horn,’ of which she was quite proud, and at once removed the linen rag that covered it. It had a broad base, which measured four inches and seven-eighths in circumference. The surrounding integument was a little inflamed, and formed a delicate red circle about two lines wide. The excrescence was of a conical shape, and was inclined downwards, like a ram’s horn or the beak of a bird. Its length along the upper curve measured three inches and seven-eighths. It was easily movable, and was evidently not attached to bone. The inferior border occupied the integument just over the outer portion of the superciliary ridge, and encroached slightly on the eyebrow. For the first half-inch from its origin, it was soft and pulpy to the touch, consisting, as it did, of an accumulation of concreted sebaceous matter confined in the dilated sac of a sebaceous duct. It bulged out, and served as a sort of cushion or shoulder for the portion above to rest upon. The latter was hard and unyielding under pressure. It was rough, and longitudinally ribbed and marked by several irregular depressions. There was one groove or furrow commencing half an inch from the base, and running along the upper surface, extended two inches towards the apex, as if an attempt had been made to divide it into two nearly equal parts. It had apparently a fibrous structure, the arrangement of its cells being parallel to its length. It tapered to a blunt point,

which was bent downward and backward until it came in contact with the inferior portion one inch from its base. No attempt had ever been made for its removal, because the woman persistently objected.

"There were several other horny formations, varying in size, upon the face and skin. None of them had attained more than a line or two above the adjacent skin. . . . From long exposure to air and floating dust, they were of a dull brown or nearly black color, while the principal specimen, above described, was of a dirty white. In the early part of May, 1865, the inflammation began to increase; and a poultice, composed of the powdered root of *hydrastis Canadensis*, was applied for several weeks, when the hard, dense portion of the horny texture was cast off. Dr. Hoffendahl informs me that the poultices changed the surface so as to impart a greenish tint to the color; and now, in its dry state, the green is still visible. Subsequently, the impacted sebaceous matter enlarged the aperture of the soft follicular sac which constituted the base of the indurated mass; a still higher inflammation set in, followed by ulceration, which spread rapidly in all directions; the walls of the hypertrophied sac were destroyed; the diseased action assumed, in all respects, an unfavorable character; and the malady is now (Dec. 13, 1865) doubtless an epithelial cancer, which covers a large portion of the forehead, and yields an exceedingly offensive discharge. The poor woman has failed very much during the past few months. She is deaf and blind and helpless, and is a most pitiable object to behold.

"She has had two children, both of whom are living, — one seventy-five years old, the other seventy; and, thus far, both are exempt from the malformation in question. Her grandmother had a cutaneous horn in the same locality with the one in the present instance. I was informed that it terminated in a cancer; the woman living, however, to the extreme age of ninety-six years."

1868. — The author has in his possession a small horn, of ovoid

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CUTANEOUS HORN OF EYELID.

"J. C. came to the Mass. Charitable Eye and Ear Infirmary, Dec. 17, 1868. Aged fifty-six. Irish. Laborer. A vigorous-looking man; has always been healthy. Parents were long-lived; neither they nor any of his relatives have had cancer or any growths similar to the one with which he is troubled. About six years ago, there was noticed on the middle of the free border of the lower lid a small pimple, which slowly increased in size. On its anterior surface there soon appeared a fine hair-like outgrowth, which he described as having been very hard. This continued to grow, gradually assuming the appearance of a horn, until a year and a half ago, when it was about one inch and a half in length, and about the same in circumference at the base. It then, without any apparent cause, dropped off, leaving the pimple as at first. It had not been troublesome beyond the inconvenience of it, either during its growth or at the time of shedding. It had never been inflamed, and had received no treatment.

"The present growth started, in a few days, from the same point as the previous one. It, however, grew more rapidly; and in a few months it attained the same size for which, in the first instance, the growth of years had been required. Since that time, it has ceased to grow.

"It has been of but little inconvenience till the present winter, when the weight of the horn has produced partial eversion of the lid, and consequent displacement of the lachrymal punctum, thus causing considerable trouble from the overflow of tears. The jerking motion given to the horn during nictation has given rise to a pricking sensation and fatigue of the lid.

"The horn was firmly attached near the middle of the lower lid of the right eye, just below the tarsal cartilage, with which, however, it had no connection. It was curved, and looked not unlike the beak of a bird. It measured, over the superior curve, an inch and three-quarters. In circumference at the base, it was an inch and seven-eighths. The outer portion, for an inch or more, was of a brownish color, rough, and longitu-

dinally furrowed, very hard, and horny in appearance. The end was blunt, the point having been snipped off with scissors. The inner fourth was more the color of the skin, elastic to the touch, and of about the density of cartilage. The base, when examined from the inside of the lid, had the appearance of being filled with sebaceous matter.

"The removal of the horn was effected by making a circular incision around the base; care being taken to avoid the tarsal cartilage and hair-bulbs, and also to preserve as much of the healthy skin as possible. The base was quite firmly imbedded but was readily separated with the scalpel. It was thought that the edges of the wound, which was circular, might be brought together vertically by a free dissection of the flap, but, on trial, this was impracticable, on account of the corrugation and eversion of the lid which it produced. A single stitch was, therefore, introduced a little below the middle; and the upper portion, triangular in shape, was left to granulate.

"The second day, the stitch was removed. The rest of the wound healed very readily.

"Jan. 1, 1869. — The cicatrix is quite small. There is slight eversion of the lid, which may be remedied by a plastic operation, should it increase."

1869.

DR. DAMON.

Dear Sir, — In the summer of 1867, I removed, at the Boston City Hospital, a small horn, growing from the right temple of a gentleman aged about sixty-five years.

Yours truly, DAVID W. CHEEVER

BOSTON, Feb. 17, 1869.

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